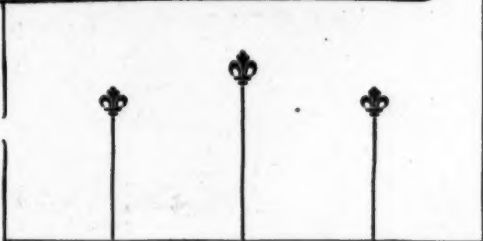


Vol. IV. No. 6.
April 18, 1901.

OFFICES	324 DEARBORN ST	CHICAGO
<p><small>THE</small> MOTOR AGE</p>		
THE AUTOMOBILE AUTHORITY OF AMERICA		



*Entered at the Chicago Post Office
as Second-Class Matter.*

Published every Thursday by the Cycle Age Co.,
324 Dearborn Street, Chicago. Eastern office,
150 Nassau Street, New York. Subscription—
Domestic, \$2.00; Foreign, \$4.00.

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E. C. STEARNS •
the Stearns Steam Carriage Company, of Syracuse, New York



FOR AND ABOUT AUTOMOBILE CLUB MEN



THE Chicago Automobile Club had lived, until last Saturday, on paper and in a cozy club room. On the day mentioned it showed that it can do something more by holding the first successful club run ever promoted in the city.

Last season two attempts were made. They were only partially successful. The club was only then forming. It was not really organized until about six weeks ago when the men who compose it held a formal meeting and declared their intention to make it an organization worthy of the name of the city and in keeping with the clubs of the east. The club rooms were secured at that time and preparations were made for a busy season. Saturday's event was the commencement of the actual work on the road.

Seventeen owners, accompanied by twice as many visitors, responded to the call, and at 2 o'clock the block between Michigan and Wabash avenues was crowded with vehicles and spectators. In the absence of the president, Vice-President Donald occupied the pride of place in his Winton. He, assisted by Secretary Brinkerhoff and Doctor Pine, in the latter's Milwaukee vehicle, realizing that it was the maiden effort of a number of his followers, made every effort to keep the line in order during the early part of the run and succeeded so well that until within a mile or two of the finish nearly all of the starters were still with the procession, for it was little more than a procession, no attempt at speed being made.

The route was almost entirely confined to the boulevards. The machines went south as far as Sixteenth street, thence back to the starting point, north to and through Lincoln Park, west to the West Park system and home by way of Jackson boulevard.

Among the vehicles in use were a Winton, a Haynes-Apperson, two Mobils, two Locomobiles, three Woods electrics, two Hewitt-Lindstrom electrics, two Friedman gasolines, a DeDion-Bouton motorette, two Milwaukee steam vehicles, and a Reading steam carriage.

Among those who took part in the run were the following: Miss Nellie Rankin,

Mrs. N. M. Burns, Mr. and Mrs. W. D. Sargent, Mr. and Mrs. M. E. Cook, F. C. Donald, H. M. Brinkerhoff, and Doctor Cottrell, officers of the club, T. C. Hewitt and Emmett O'Connell, of the Hewitt-Lindstrom company; State Senator Earle, of Detroit, president of the League of American Wheelmen; John Siman, president of the Associated Cycling Clubs, of Chicago; George Greenburg, of the National Cycling Association; F. D. Doolittle, T. W. Roundwith, J. Dreyer, I. M. Hall, E. M. Miley, W. E. Parsons, W. M. Vance, Mr. Tucker, of the Locomobile company; Mr. Porter, of the Autobain, Irving Hull, B. M. Young, W. L. Hibbard, J. K. Lake, J. W. Bate, Frank Illsley, Alderman Scully, K. C. Pardee, W. L. Delafontaine and a representative of this journal.

THE ENDURANCE TEST

On Saturday the long-discussed 100 mile endurance test over the roads of Long Island will occur. The interest taken in the event indicates that there will be a great number of starters, many of whom are already familiar with the roads over which they will be required to travel.

The course comprises all sorts and conditions of road surfaces and grades. Starting and finishing at Jamaica, it will carry the competitors over the north shore, south shore and center road systems of Long Island. The north shore offers the characteristics of New England, with rugged hills and some steep grades, while the south shore presents a flat, level surface, with fine macadam turnpikes, having little, if any, grade.

The steepest hill is at Roslyn, where the grade is about ten per cent for a distance of about half a mile. It is on this that the club's hill climbing test will take place. The course between Flushing and Oyster Bay is more or less hilly throughout, the next steepest grades to that at Roslyn being near Great Neck and at Oyster Bay.

The roads across the island from Oyster Bay to Amityville offer no difficult grades, and, though not so good as the north shore highways, are usually in fair

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condition. At present they are in excellent shape. The best stretches of macadam in the entire course are found on the Merrick turnpike, between Amityville and Freeport and between Valley Stream and Springfield.

Last Saturday a large number of persons, among whom were no less than twenty-two members of the Long Island Automobile Club, took advantage of the last Saturday prior to the trial to go over the whole or part of the course. They started in three divisions. In the first were L. R. Adams, president of the Long Island Automobile Club; A. R. Pardon, F. G. Webb, Frank T. Craven, C. F. Rockliff, L. R. Hopkins, H. R. Perkins, Edward Pidgeon, C. W. Spurr and T. K. Hastings.

This division left the club house, in State street, Brooklyn, at nine o'clock, and rode over the southerly portion of the endurance test course to Springfield, Rockville Centre and Freeport. Several members visited the Rockville Centre Country Club, while others continued the trip east to Amityville and north to Oyster Bay, returning to Jamaica by the north shore road, thus covering almost the entire test route.

In another division, which left Jamaica, L. I., at a quarter past nine o'clock in the morning, were C. J. Field, L. H. Kittrick, of Cleveland; C. G. Wridgway, J. Jacque and Pentland Green. Riding north to Flushing, and thence east to Oyster Bay, they covered the entire one hundred mile course, and were back at Jamaica at a quarter past four o'clock in the afternoon. Their total time for the century was seven hours, which included an hour's stop at Hempstead for lunch. They reported the roads of the whole route as being in excellent condition, though more or less dusty.

The third division of the run consisted of detached groups of automobilists, who started at various times of the day with the intention of going over the course.

STRENUOUS HILL CLIMBING

Nice, France, April 4.—Hill climbing records galore were broken in the hill climbing contest which ended the week's sport here last Friday. The race was divided into nine classes of vehicles.

The first class for racing machines seating two passengers was won by Baron Rothschild's big 35-horsepower Mercedes vehicle driven by A. Werner, "Dr. Pascal," who covered the 15½ kilometers of 8 to 10 per cent grade in 13 minutes, 6 4-5 seconds. The previous record for the course was 19:02, which time was beaten by the three first place winners in this year's contest.

The second class was for steam vehicles. Leon Serpollet won with a Gardner-Serpollet machine in 24:11 3-5. The former record was 31:50 for steamers.

Beconnais, the king of the motorcyclists, won the race for his class in 17:21, which not only breaks the records for the course for motor cycles, but is the record of all classes for the event.

Burquet on a Werner motor bicycle won the contest for his class in 27:34, which did not break former record of 25:30.

The class event for light vehicles seating four persons was won by Koechlin with a 7-horsepower Peugeot in 28:35 4-5.

The class event for voitures was won by Katzenstein with a 12-horsepower Panhard-Levassor in 28:20.

The class event for heavy vehicles with seats for six persons was won by Thorn with a 35-horsepower Mercedes in 21:46; previous record 32:22. The four first finishers in this event all drove German machines.

In the racing voiturette class Barrass won with a 12-horsepower Darracq in 19:40 2-5.

The class event for road voiturettes was won by Thery with an 8-horsepower Decauville in 33:12 4-5.

This hill climbing event as well as all other races of the week of Nice further demonstrated the great advance in the speed possibilities of the light machines during the last year.

NEW YORK'S SPEED BILL

New York, April 13.—The powers that be at Albany have not yet finished with the Doughty bill, which is designed to regulate the speed of automobiles on the highways and to make the speed limit uniform in all parts of the state. Since it was passed by the lower house the senate has amended it so that automobiles cannot go into parks in New York city except under such regulations as may be prescribed by the park commissioners, and that in other cities they must abide by the regulations made by similar officials.

The bill will now have to go back to the assembly, but G. F. Chamberlain, of the law committee of the Automobile Club of America has assurances that it will be passed in its present form.

James C. Church, a Brooklyn lawyer, who has been in Albany watching the bill, describes the progress of the measure in this way:

"You see the boys in Nassau got this bill up originally on account of the mile a minute gait that Vanderbilt and others were trying to reach. Vanderbilt had a forty mile an hour machine built. Then some one else beat him with a sixty

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mile machine, and Whitney has a marvel building. Soon folks began wondering just were they were at on the country roads, so they got up this bill.

"Then I asked them if they hadn't made mistakes and whether they would not take a little advice. In the first place, in addition to regulating speed they ought to insist upon brakes. They agreed. Then in addition to brakes, they wanted lights in front, and they ought to have lights in the back. Then I suggested a clause which required a speed in accordance with the traffic of a thoroughfare, a mile a minute if necessary, where street or road were not crowded. Then, too, autos ought to be made stop when a horse approaches that showed signs of being frightened. Well, they were all put in and a penalty imposed for a violation."

"The bill forbids automobiles on speedways and when the committee met yesterday afternoon they wanted to know if this would apply to new speedways that have not yet been built. It was made to so apply. Park commissioners will have power to enforce regulations of their own in the new amendment and the bill applies to the whole state. Guess we have it in the shape that everybody wants it, now. Dr. Kane of the Horse Drivers' Association, who was opposed, now believes it to be all right."

The bill as originally drawn and introduced at the instance of the Nassau supervisors provides that no vehicle of any sort, carriages drawn by horses, bicycles or automobiles shall go at a greater rate of speed than eight miles an hour in the cities or incorporated villages of the state and fifteen miles an hour over highways outside of the cities. The law was made to apply uniformly to all parts of the state for the reason that different villages were making different regulations as to speed, and it was impossible for a wheelman or owner of an automobile to run their machines through, say Nassau or Suffolk counties without carrying with them a set of speed regulations which were liable to be changed over night without notice.

LADIES ARE INTERESTED

Portland, Me., is to have an automobile club. A meeting at which the preliminary steps were taken was held last week and the name agreed upon was the Automobile Club of Maine. A committee was selected to draft a constitution and by-laws. A meeting for organization will be held as soon as the committee is ready to report. It is estimated that there will be about forty automobiles owned in Portland this season. Those present at the

meeting last evening were: Mr. and Mrs. M. D. Hanson, Mr. and Mrs. Henry R. Stickney, W. H. Willard, F. O. Bailey, Mr. and Mrs. H. W. McCausland, Mr. and Mrs. W. H. Chase, Mr. and Mrs. T. B. Davis, W. C. Bucknam, F. C. Bucknam, A. M. Spear, Jr., Thomas J. Foster, Mr. and Mrs. F. A. Chaplin, C. H. Simonds, Mr. and Mrs. Edward G. Haggett, Samuel S. Boyden, Mr. and Mrs. George E. Sawyer.

FOLLOW THE KING'S LEAD

King Edward's keen interest in automobiles, says a dispatch from London, is expected to give an extraordinary impulse to motoring this year. But, if the fashionable imitate royalty in the possession of motors, it would be equally advisable to follow the royal example in learning something about the practical mechanism of the motors.

The king has studied the mechanism of the principal automobiles, and can now handle a breakdown with the best experts on the road.

One result likely to accrue from the king's motoring is a cessation of what might be described as the motorphobia epidemic among the local boards in England. Despite demonstrations by the Automobile Club, the local magnates persist in enforcing absurd prohibitions with regard to speed, also the outward marks for identification, some even going so far as to declare that motorists should wear a big number, like racing cyclists. The narrow English country roads are not the best on earth for motoring, but the narrow-minded local authorities complicate matters vexatiously.

When royalty sets the pace—and it is well known that the king does not favor funeral-paced driving—the local Dogberries will have no option but to doff their hats when the motor passes, swallowing their ruffled dignity as best they can.

FROM BERLIN TO THE RIVIERA

Berlin, March 29.—Count and Countess Alexander von Boos-Waldeck, who left Vienna about a month ago in their 25-horsepower car for the Riviera, have returned home safely, after an interesting trip, only marred by the inconsistency of the elements. The roads leading over the Apennines were covered with deep snow, whilst from Genoa out floods made the roads almost impassable. At different stages the car had to be dragged through streams of water, as no less than three broken-down bridges were encountered. When Monte Carlo was at length reached,

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the weather was almost summer-like. The plucky chauffeurs were hailed by their friends in Nice, who had grown anxious, with delight. The count and countess spent their honey-moon last year automobiling.

A motor exhibition is being arranged for June 16 to 20 at Buda-Pesth, jointly with the automobile race promoted by the Austrian and Hungarian A. C.'s, the finish of which is to be at the Franz Josef's Bridge, in Buda-Pesth.

Eberswalde, a very go-ahead factory town in the Markgratave of Brandenburg, has introduced a line of electrical automobiles, which serve to connect the station of Eberswalde with the town itself. The omnibuses are built on the Lombard-Gerin system, which caused some sensation at the Paris exhibition. A general inspection of the plant took place on March 18, M. Lombard-Gerin and Count Talleyrand-Perigord, as well as the presidents of several of the North German railway districts being present. A more general introduction of the system into Germany is expected in the near future.

Karlsbad, Bohemia, has decided to replace its horse-drawn omnibuses with a line of electrical cars and has placed an order with a German firm.

On May 5 the Austrian Exelberg race takes place close to Vienna and this time, instead of only being open to motor-tricycles, three categories will be permitted to start: motor bicycles up to 250 kilogrammes (German), voiturettes up to 400 kilo., and light cars up to 650 kilo. The Austrian Automobile Club is arranging the race.

NEW YORK CLUB ITEMS

New York, April 14.—The proposed run of the A. C. A. to Ardsley-on-the-Hudson scheduled for yesterday was abandoned and no regular run will be attempted next Saturday, as several of the active members will compete in the hundred mile endurance test of the Long Island Automobile Club. Of course quite a number of other members will have their carriages out to see the start and finish of the test at Jamaica, and will kill time between times by short runs over the neighboring network of macadam.

Club night at the A. C. A. last Tuesday had for a feature an illustrated good roads lecture by Vice President H. B. Fullerton, of the L. A. W. He showed nearly a hundred lantern slides, giving views of roads all over the world. Thereby it was pointed out that New York state was far behind even Italy and China in the matter of highway improvement.

"Wizard" Edison has accepted an invi-

tation to be present at the annual banquet of the A. C. A. at the Waldorf-Astoria next Thursday evening. This is his first acceptance of a dinner invitation in a long while and indicates that his new storage battery has given him a particular and personal interest in automobiling.

The Buffalo member of the committee on automobile sports at the Pan American was here recently in consultation with his fellow committeemen of the A. C. A. This committee is not intruding its plans on the public just now, pending the passage of the automobile bill at Albany. That measure enacted and signed, a flood of interesting news matter relative to the great week of automobile sports at the exposition may be expected.

At the annual meeting of the North Jersey Automobile Club held at Paterson yesterday the following officers were elected: Charles D. Cook, president; Vernon Royle, first vice president; J. E. Barbour, second vice president; Edward T. Bell, jr., secretary and treasurer; William H. Fletcher, captain. A joint run is planned for today with the New Jersey Automobile Club of Montclair.

The Princeton University Automobile Club has been organized with P. S. Adamson as president and C. H. Dugro as secretary and treasurer.

The law committee of the A. C. A. announces that the following ferries carry motor vehicles using gasoline as fuel or motive power in accordance with the recently enacted United States statute:

North River—West 130th street, West 125th street, West Forty-second street, West Twenty-third street, West Thirteenth street, Franklin street, Desbrosses street, Cortlandt street, and Whitehall street, to Thirty-ninth street, Brooklyn.

East River—East Thirty-fourth street, East Twenty-third street, East Tenth street, East Houston street, Grand street, Chambers street, Roosevelt street and James Slip.

The attendance at the A. C. A. rooms continues large, fully fifty members visiting them daily.

PHILLY OPENS NOBLY

Philadelphia, April 15.—A combination of chill easterly winds and lowering skies tended to mar the season-opening parade of local automobilists from a numerical view-point last Saturday afternoon, but otherwise the affair was a great success, the crowds turning out to witness the passage of the seventy-two vehicles composing the pageant being the subject of remark. It was an outpouring worthy of a much larger procession, and the only

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criticism heard was that the parade was so soon over.

At the advertised hour of starting—3 o'clock—the vicinity of Broad and Locust streets was a veritable jam of automobiles, cyclists and spectators, necessitating the assistance of the police before a start could be made, fully half an hour later. After the line had been straightened out for the first leg of the course, south on Broad street, it was observed that the procession was eight blocks in length, and with flying flags and the handsome headgear of the many ladies participating, the sight was a pretty one indeed.

There were several six-seaters in line, and quite a number of four-seaters, but the majority of the machines were of the runabout type, driven by steam, gasoline being second in point of numbers, with electricity bringing up the rear. Motorcycles didn't count, although there were quite a bunch of them tagging on at the rear of the procession.

As no parade in Philadelphia is complete without a cordon of police to lead off, there was some hesitancy in view of the non-existence of a municipal automobile police corps—it was a toss-up between the "cops" mounted on horses and those on bicycles, and the latter were given the preference, in view of the horseless nature of the pageant. Right here it is proper to note that throughout the long route the machines behaved themselves very well, and there was no single instance where a horse was frightened. It is indeed the fact that few Philadelphia physicians and others who formerly used horses exclusively have discarded their equines since becoming converts to automobilism.

Moving south on Broad street to Washington avenue, the parade countermarched around the east side of the City Hall to Diamond street, thence west to Fairmount Park, south to the East River Drive, to Green street entrance, to Twenty-second, to Chestnut, to Twenty-first, to Locust, to Fifteenth, where the officers wheeled out of line to review the procession. Captain John S. Muckle, of the Automobile Club of Philadelphia, was the grand marshal, and he was assisted by Leon Goodman, of the Pennsylvania Automobile Club, who was accompanied by President Watts, of the Century Wheelmen. The six divisions of the parade were in charge, respectively, of Herbert W. Warden, H. P. Feister (whose park brake was the "hit" of the line), Frank C. Lewin, W. H. Hinchman, J. Maxwell Bullock, and R. P. McCurdy.

Following is a list of the "attached" automobilists who participated in the parade, but there were upwards of a dozen

machines in the procession whose owners were not affiliated with either of the local organizations:

Automobile Club of Philadelphia—G. W. C. Drexel, J. H. Harding, Jas. Elverson, Jr., Geo. D. Widener, Caleb F. Fox, F. A. Janney, Henry B. Brazier, R. E. Glendinning, F. T. Patterson, John S. Muckle, Charles J. Swain, E. M. Robinson, A. M. Waterhouse, John L. Wilson, W. W. Gibbs, Frank C. Lewin, Herbert Lloyd, H. G. Morris, P. G. Salom, G. Jason Waters, J. B. Entz, A. B. Stoughton, Herbert Warden, M. R. Muckle, Jr., Theo. B. Entz, Walter B. Smith, William T. Huhn, S. Y. Heebner, George A. Huhn, C. W. Kelsey, W. E. Roach, L. J. Kolb, H. D. Stratton, F. T. Sweaney, Jules Junker, Wm. Disston, Jay Cooke, Alex Benson, D. H. Carstairs, A. H. Stephenson, Samuel L. Clayton, Mr. Shirk, Mr. Dodge, Mr. Baird, Mr. Bartol, J. M. Bullock, Dr. F. L. Sweeney.

Pennsylvania Automobile Club—Julian Haugwitz, H. J. Johnson, W. H. Hinchman, S. M. Randolph, A. B. Currier, Chas. E. Wright, J. K. Wharton, D. W. Webster, G. E. Gossler, Chas. L. Klauder, Dr. B. F. Buzby, E. M. Rosenbluth, Robt. McCurdy.



MAY LOOK, BUT MUSTN'T TOUCH

The annual dinner of the Automobile Club of America is to occur at the Waldorf on Thursday evening of this week. The officers expect an attendance of about 300 and promise addresses by a number of prominent people.

It is one of the rules of the club that no member is permitted to take a lady companion on a club run. The same rule will be adhered to at the dinner, but the galleries of the hall will be open to the ladies.



ONE-WAY TRIP ONLY

The road race in connection with the Pan American exposition will be cut down from 200 to 100 miles. The committee in charge has arrived at the conclusion that the road is in too poor condition for the longer distance and that, although the road is as good as any in the state, it will hardly be possible to average more than thirty-five miles an hour for the journey. The race will therefore start at Erie and finish at Buffalo, provided the state authorities grant the required permission.



Cordang, the Dutch record breaker, recently lost all of his prizes by fire. He valued them highly and is said to feel the loss keenly.

FROM THE FOUR WINDS

A CABLEGRAM to the Chicago News, dated at Paris, April 17, says: "The duke of Ratibor's letter informing Baron Zuylen, president of the Automobile Club, that Emperor William offers a prize in the Berlin-Paris automobile race, marks a further stage in the smoother relations that are coming to exist between France and Germany. Baron Zuylen said to The Daily News correspondent today:

"I am not quite certain yet what the emperor's prize will be, but probably it will be an object of art after the style of the cup offered by President Loubet. About 300 automobiles have been engaged in the principal European and American centers for the race, which is fixed for June 27. The starters are due to arrive in Berlin within three days from that date. All arrangements for the race have been completed. The mayors of towns in France, Alsace-Lorraine, Luxembourg and Germany have agreed to afford the racers every facility for rapid progress. Emperor William has personally intervened to perfect the organization for the race in German territory."

PREPARE FOR WINTON'S TRIP

Mr. Shanks, advertising manager, press agent and general boomer of the Winton company left Cleveland on Friday evening of last week to travel by easy stages toward the Pacific coast and complete the necessary preparations for the trans-continental trip to be made by Mr. Winton and himself. The principal object of the journey, at this early date, is to learn as much as possible about the roads and general conditions of travel. Mr. Shanks called at the office of this paper on Saturday, declined an invitation to take part in the run of the automobile club on account of the pressure of business, and started westward early Monday morning.

It has not yet been decided when the trip will commence. Mr. Winton will hold himself in readiness to leave the factory as soon as he receives word that all the arrangements have been made and that the roads are in fit condition to travel on. "We at first thought," said Mr. Shanks, "of making the trip in a machine built for speed. This idea was abandoned, however, first because a machine of the standard pattern will render better service in fording streams and in rough use generally, second because duplicate

parts, should any become necessary, are readily obtainable, and last, but by no means least, because the ride on a standard vehicle will be a better test of the real merits of an automobile. So we shall make the trip on a machine with no other special preparation than increased storage room for gasoline.

"We shall follow the northern route, sticking as closely as possible, at the outset, to the line of the Central Pacific. Beyond that I can give no definite information because our route will depend entirely on my discoveries on this trip and such local conditions as may confront us at the time."

Arrangements have been made with the Cleveland Plaindealer for a daily dispatch, giving the details of the ride. The Plaindealer people will furnish the main facts to the Associated Press, which will scatter it broadcast over the country.

General Miles has become interested in the trip and has made arrangements for the carrying of a message from the army headquarters at San Francisco to New York. The voyagers are not prepared to make an estimate of the time which will be consumed, a practical demonstration of the possibilities of rational automobilism being of greater importance to them than great speed.

PENNINGTON'S "HOT AIR" AUTO

Pennington, inventor, promoter, etc., about whose whereabouts little has been heard lately, is on deck again. He has turned up in Philadelphia, with a war automobile, in the demonstration of whose speed he has caused himself and two companions to be arrested and, at a cost of \$22.50 for fines, has secured newspaper notoriety which would have cost him many hundreds of dollars in any other way.

This escapade occurred one night last week on Broad street. Now he wants to wager \$5,000 to \$500 that he can give a start of twenty-five miles to any other automobile in Philadelphia, in a run to Atlantic City and back. He is probably well aware that the authorities would not permit any such race. As a talker about large sums of money Pennington was always a great success.

He asserts that his machine will travel seventy-five miles an hour on smooth pavements, 130 miles on a railroad track and thirty-five miles over ploughed fields,

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statements which are sufficient to stamp his claims as ridiculous.

His latest assertion is that he is negotiating with the Russian government for the adoption of his machine for military purposes and that agents of the government are now in this country waiting to see him.

The machine which has caused all the stir has been on exhibition at the store of one of the local dealers and is described by the local papers as "a curious contrivance of machinery, wires, bicycle seats, pneumatic tires, machine guns and a gasoline motor. Briefly it is a skeleton steel frame nine feet long, upon which are seats for seven men, five soldiers, an engineer and a speed regulator.

"Four wheels, each fifteen inches in diameter and six inches wide support the truss frame. The motor is placed at the rear. In addition to the bicycle seats for the men, there are places for two machine guns at either end, and contrivances by which the entire upper part of the machine can be concealed by a screen of armor plate. When this is in position the vehicle is about six feet in height and four feet wide.

"A company has been organized in which it is said W. W. Gibbs, president of the Marsden company, of Philadelphia, is a heavy stockholder."

Pennington's first machine of this character was made and shown in New York about twelve months ago.

TREBERT VOTES FOR STEAM

Syracuse, April 15.—The Syracuse Automobile Co. has opened up its store in West Water street and is selling the carriages made by the Locomobile Co. of America.

A truck motor vehicle owned by the Syracuse Dry Goods Co. is attracting considerable attention around the streets. The Century Motor Vehicle Co. will have an electric delivery wagon completed this week.

Henry L. Trebert, who has designed both a gasoline and a steam carriage, says that steam is the coming thing for motor vehicles. Mr. Trebert a few years ago, went on a trip to Europe with E. C. Stearns to learn all he could about motor vehicles. After his return he designed a gasoline runabout and later a steam carriage. The former is now made by the Stearns Automobile Co. and the latter by the Stearns Steam Carriage Co.

A YEAR OF MOTOCYCLING

New York, April 15.—J. E. Pursell, manager of the Trenton Cycle Co., Trenton, N. J., has had a good deal of experience

with a motor tricycle the past year and spoke interestingly to a representative of this paper last week about the results he obtained therefrom. Mr. Pursell covered 3,000 miles on a motor-tricycle and said the total cost for repairs was only forty-one cents. He acknowledges that he had some little trouble, occasionally, with his motor but, although he does not profess to be a mechanic, he made the simple repairs himself. Mr. Pursell believes that carriage tires are of more use on a tricycle than the average tires made for such mounts. He has had no punctures or trouble with the heavier tires and says he never failed to get back home and always got back with his own engine power.

KIDDER VEHICLES AT BUFFALO

The Kidder Motor Vehicle Co., of New Haven, Conn., is preparing an attractive exhibit for the Pan-American Exposition. The company will show one of its vehicles with the body removed and the driving wheels mounted on rollers. The various parts of the mechanism will be cut away to show the actions of the slide valves and pistons and the rollers will be operated by electricity, thus showing the engine in action. The working parts will be nickel plated and the exhibit will be a practical demonstration of the vehicle.

BOASTING INCREASES COMPETITION

New York, April 15.—"We were well satisfied with the business result of the Chicago show," said Vice-President Schermerhorn, of the Steam Vehicle Co. of America, to-day. "Mr. Cook, our Chicago representative, sold five vehicles at the show and since then we have received orders for three carriages as a direct result of our exhibit."

In discussing show results and the figures of sales made, Mr. Schermerhorn, who has passed through all the pitfalls of the cycle boom, declared that it was now up to the automobile trade to profit by the error of the cycle business.

"The trade papers," said he, "should urge makers and dealers to be strictly within the limits of fact in their statements of sales made and business done, and avoid vainglorious boasting in all conversations with outsiders or for publication. The cycle trade fell into the habit of gross exaggeration as to output and profits and so attracted hundreds in the belief that there were millions in it. In time many inexperienced investors lost much money and the injury through unnecessary competition to the trade in

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general was enormous. With the losses that are bound to occur through experiment and the correction of mistakes, those already in the game will have a hard enough row to hoe without through vain boasting creating greater competition than already exists."



WHO WANTS TO BUY ONE?

The illustration herewith reproduced is from the catalogue of another of the "big" companies of which the automobile industry has already had many. The same catalogue contains illustrations of many vehicles supposed to be the products of the company which issued it, but of which, so far, nothing is known to the industry.



Ellsworth, Me.—Ellsworth Mfg. Co., \$10,000; to make and deal in carriages and automobiles. President, L. F. Giles; treasurer, H. C. Stratton, of Ellsworth, Me.

Harry Wilson, of Doniphan, Neb., and Charles Jacobs, of Hastings, rival local makers of automobiles, have agreed to engage in a race as soon as the roads are in condition to permit it.

John Sykes, manager of the Capital Cycle Co., of Trenton, N. J., is the local agent for the Mobile. He says Trenton is slowly waking up to the beauties of the automobile and believes he will do considerable with them in the near future.

Owners of vehicles in Cleveland will hold a meeting this week to see whether arrangements can be made for a general storage room for automobiles in the cen-

ter of the city. They desire to use their machines in connection with their business.

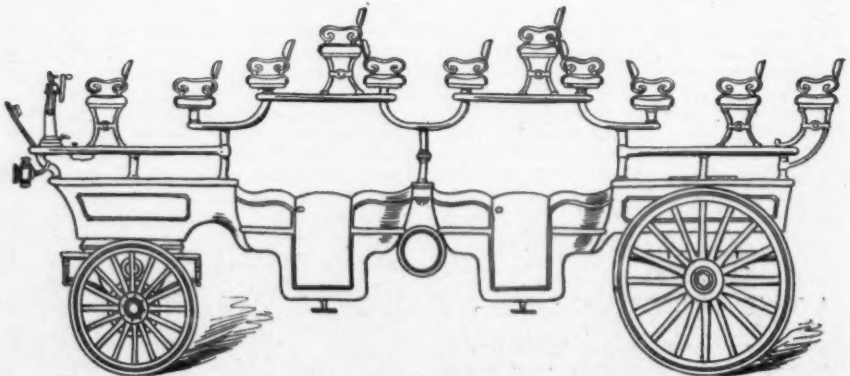
The American Die & Tool Co., of Wilmington, Del., is doing some work for the automobile trade. The manager of this company, Charles S. Dundore, is well known in Reading, Pa., where he was for many years connected with bicycle manufacturing.

L. D. Munger, manager of the Munzer Tire Co., of New Brunswick, N. J., is becoming much interested in the automobile question and the famous designer of the once famous Munger bicycle, is already experimenting. At present he is driving a Winton.

The park commissioners of Fairmount Park, Philadelphia, keep a careful account of the number of vehicles of all descriptions which pass through their domain. They report that in March the number of automobiles was greater than in any previous month.

John R. Keim, of Buffalo, writes that he has not taken hold of the Haffelfing motor bicycle, and has no intention of doing so. It was recently reported that Mr. Keim would manufacture the motor bicycle on royalty, but his statement disposes of the rumor effectually.

Earl P. Mason, a graduate of the Boston Tech., and a clever mechanical engineer, has accepted the position of chief engineer of the marine department of the Steam Boiler Equipment Co., of New York. Mr. Mason is a writer of great ability and recently contributed a very readable article to an automobile paper. Mr. Mason's father is at the head of the Sneekner Motor Co., of Greenwich, Conn.



The latest creation of the company promoter.

NEWS OF THE MOTOR INDUSTRY

ALTHOUGH it cannot be announced with certainty that the deal between the city of Utica and the Remington Automobile Co. has actually been closed the negotiations have reached such a stage that the officers of the Chamber of Commerce of that city are looking for ground on which to locate the plant and the company announces its belief that, within six weeks, it will be definitely located in Utica. Meanwhile the temporary plant, at Illion, is being operated to its fullest capacity.

Utica has been fortunate in the selection of industries and has donated land and given money to enterprises which have been entirely satisfactory. In consequence of this and of the good standing of all hands connected with the Remington company, the people have been anxious to secure the new industry. The Chamber of Commerce has asked, through the daily newspapers, for bids for four acres of land. The plans have been made for the first building, which is to be of brick, 180x60 feet.

SAMPLE OF QUICK WORK

Everyone loves a hustler and in that class, assuredly, President J. A. Carter, of the Geneva (O.) Automobile & Mfg. Co. belongs. A few months ago he was one of the leading spirits of the American Bicycle Co. He spent most of his time in New York, though his home was and is in Geneva. Then came a change and Mr. Carter went back to Geneva with the automobile bee in his bonnet. About two weeks were consumed in preparation. The necessary capital was secured and in a few days more the factory was commenced. Meanwhile the plans for the automobile to be produced were under way. Work on it commenced long before the factory was in shape and the first complete machine is now ready.

The enthusiasm with which Mr. Carter went to work and the rapidity with which he evolved something out of nothing evidently impressed the people with whom he is associated. They made a modest

beginning, but at a meeting held last week they placed almost unlimited power in the hands of the president and Superintendent Thompson. They decided to erect an addition to the plant, of 40x180 feet, and to purchase a new 100 horsepower boiler and such additional machinery and plant as the president and superintendent consider desirable.

Makers come and go. One reads of some new concern and that is the end of it. A few survive. In the latter class place the Geneva Automobile & Mfg. Co. It is run by men who know how to manufacture quickly, cheaply and well.

NO HOT AIR ABOUT THIS

It is not generally known, but nevertheless a fact, according to the eminently respectable and reliable Washington Times, that the hitherto rival and combating liquid air companies of the United States have practically combined and in a few days will have been legally constituted one company, to be known as the Tripler and General Liquid Air Co., operating under the patents of Charles E. Tripler and Ostergren & Burger.

The combined companies have a Washington plant, just installed, and are now doing their preliminary work in the building of the Capital Traction Co. at the foot of Seventh street.

Exhibitions were given last week at the plant by the company, under the auspices of Prof. G. A. Bobrick, E. T., its chief engineer. They were exhibitions of magic, spectacular and vivid, that would have put to shame the performances of the elder Herrman in his palmiest days, but they were combined with a most convincing ocular demonstration of tremendous and hitherto almost unthought-of power under perfect control. The experiments were watched at both lectures by distinguished groups of scientists and business men.

From the freezing of a beefsteak to the consistency of a pane of glass, to the running of an automobile, a lighting plant, and a refrigeration plant, every step of the wonderful progress that has

been made with the development of this new energy was exhibited in a manner quite startling even to the scientific men present—for it is only during the last few months that many of the most remarkable developments have been reached by Prof. Bobrick, and the learned world is only now beginning to hear of them.

Prof. Bobrick, as described by the Times, is a twentieth century magician, dealing not with mumbled words, sleight of hand, and artful mirrors, but with the paraphernalia of a combined chemical laboratory and engine shop. He works not in charms and hoodoos for the destruction of his enemies and the production of love philters, but in sober earnest for the generation of energy in a new way to turn wheels and produce actual, tangible, valuable results. His mysteries are mysteries no longer when he explains them, but they are none the less bewildering for all that.

He is a dark, quiet man, rather under the ordinary size, remarkable in appearance only for a pair of vivid black eyes that show the fire of a man of imagination. He is a Russian by birth, and received a thorough education in the St. Petersburg Institute of Technology, one of the leading technical schools of the world. He has been experimenting with liquid air for some years, and during the past two years has been doing practical work in harnessing its energies so clearly demonstrated by Prof. Tripler and others. It is by his efforts, however, almost entirely, that these practical working machines using liquid air have been devised and constructed, and it is on these machines that the Tripler and General Liquid Air Co. has been allowed a large number of patents.

TEST OF AN ELECTRIC

A long-expected test of an electric volt-urette, for the purpose of ascertaining with certainty the distance it could be driven without re-charging occurred on April 3 over the course from Paris to Nantes and return, a distance of 114 kilometers or about 71 miles. The volt-urette was a Garcin. It weighed only 730 kilos, or 1,606 pounds, of which the batteries weighed 334 kilos or 734 pounds. The course chosen for the trial was not of the best and rain had fallen heavily the night before so that the roads were deep in mud in some places. Nevertheless the vehicle went over the course successfully, and then went six times around the course at Longchamps, a further distance of over thirteen miles or a total of eighty-four and a half miles. The time for the distance was 6 hours, 32 minutes, 55 seconds. In a previous test M. Garcin cov-

ered 162 miles, but with a vehicle which weighed nearly two tons.

TRIES NEW MOTOR BICYCLE

New York, April 15.—The Hafelfinger motor bicycle, which attracted considerable attention at the New York show, was put through its paces very thoroughly on Friday. The trial took the form of a century run. Will R. Pitman, the veteran wheelman, who rode the first bicycle in New York city, and is now an enthusiastic motor cyclist, started on the machine, followed by Emil Hafelfinger, the inventor, on a leg propelled bicycle. After Pitman had run its 25 miles there occurred trouble with the sparker and Hafelfinger was its pilot the rest of the journey. Notwithstanding two delays of an hour and a quarter and two and three-quarter hours respectively, the century was completed in 9 hours 15 minutes all told, or in five hours of actual riding time.

PEORIA PLANT SOLD

After a fitful existence extending over about two years the Consolidated Motor Vehicle Co., of Peoria, Ill., has sold its plant. The purchaser was Henry Finkelstein, who, it is said, represents eastern men who are interested in the Duryea company and who will establish a new business. It is stated that the consideration was \$20,000.

The factory is located at Peoria Heights. Some years ago the Peoria Heights Land Improvement Association was started. At the time the property it owned was a barren prairie so far as business was concerned. The first industry to locate there was the Rouse-Hazard bicycle plant. Then Monroe Selberling was induced to establish the Peoria Rubber & Mfg. Co. there. He built a factory and turned out 10,000 bicycles within a year.

In due course this place was sold to the cycle trust. In the meantime some experiments had been made with automobiles under the direction of Frank Bolte, the company's superintendent. It was decided to continue this line of work, so when the company vacated the property it had sold to the trust it secured possession of the Rouse-Hazard factory, that company having gone the way of a great many others and abandoned the business.

For a time great things were promised by the new concern. It was decided to make a bid for business in all lines and negotiations were opened with owners of all sorts of patents with a view to the manufacture of electric, steam and gasoline vehicles. But nothing came of it. The concern seemed to be lacking in push and at last Bolte began to despair of ever

doing much and to prepare to move elsewhere.

The sale just completed ends the chapter. Charles Duryea, who recently addressed a communication to the city council asking that the town do something to secure the location of his business there, is now supposed to have carried his point. He is an old resident of the city and, it is understood, has long hankered after a chance to return. No information has been given out as to any action the city will take. The application above referred to was referred to a committee and that was the last heard of it.

OPENING AT KANSAS CITY

The Day Automobile Co., the first of its kind in Kansas City, held a formal opening of its store, on East Twelfth street last week. The rooms were handsomely decorated and a correspondent writes that hundreds of visitors were present during the day. Many of them were given their first ride in an automobile. Kansas City has been backward in automobilism on account of its extraordinary grades, but it is believed that the late opening will be the signal for the establishment of other places before the spring is over.

NEW STAGE LINE

Trenton, N. J., may shortly be connected with Philadelphia by a line of automobiles. At the next meeting of the Philadelphia Common Council an ordinance will be introduced to authorize the Gilday Motor Vehicle Co. to run passenger coaches, freight trucks and express wagons on the streets of that city. If the resolution passes and the scheme pans out, these coaches, trucks, etc., will not only run to Philadelphia, but also north to this city and east to Atlantic City.

The company was chartered in Delaware last February, and has been organized with Samuel A. Boyle, Jr., Philadelphia, president; W. R. Allen, New York, vice president, and William A. Gilday, secretary and treasurer. Should the ordinance pass the company claims that it will be ready to begin business within six weeks after the passage of the bill.

It is stated that arrangements have already been entered into provisionally for a supply of coaches and trucks, which will be equipped with electric storage batteries, patented by Mr. Gilday.

The passenger coaches as contemplated would be double-deckers, with heavy rubber tire wheels, and a capacity of fifty passengers each, with a fixed fare for a continuous ride in the city limits of three cents, or eight tickets for twenty cents.

Not the least pretentious of the plans of the projectors is the intention to do a regular freight and express transportation business. For this purpose they propose not only to establish express offices, but to negotiate with business houses for shipment of freight and express packages to the suburbs, the carriage of freight and packages to the railroad stations, which is now done by horse trucks, and the establishing of a regular system of parcel delivery to residences.

Mr. Boyle, whose name appears as president of the company, is an attorney of local prominence and was for years one of the leaders of the Pennsylvania division of the League of American Wheelmen.

ANOTHER POSSIBILITY

Brunswick, Me., April 13.—There is a possibility that this summer will see the building of a large new factory in Brunswick, so that an industry comparatively new to that town can be operated on a large scale. Last summer R. S. Whitney built an automobile along lines entirely original with himself. His ideas have interested capitalists both in Brunswick and outside, and if it can be shown that Mr. Whitney's ideas are thoroughly practical, the chances are good for a company being formed for the purpose of manufacturing automobiles, giving employment to a number of skilled machinists.

POOR MAKER, GOOD BUYER

Spain has but two automobile factories and but one of these is in actual operation. It is at Barcelona. Spain, however, invested \$400,000 last year in French-made automobiles. But for the recent Spanish-American triviality the United States might do a good export business with Spain. There is a steady demand for electric machines, especially large omnibusses.

CHEAP POWER INDEED

Walter Richards, a bicycle mechanic, of Trenton, N. J., is building to order, three automobiles for physicians and will use gasoline motors. Mr. Richards believes that the gasoline motor is the safest to use and is particularly impressed with the one made by the Buffalo Gasoline Motor Co.

As an example of cheap power, Mr. Richards points to an Otto gas engine which he has used for five years to run his machine shop. He told this paper's representative, last week, that in all that time the machine has not cost ten cents in repairs. He runs ten hours each day,

NEWS OF THE INDUSTRY.

using a 15-inch and an 18-inch lathe. Five gallons of oil runs him thirty hours at a cost of 50 cents, or one dollar per week for power. Mr. Richards thinks this is about a record in the way of power economy.



NEW YORK TRADE ITEMS

The De Dion-Bouton Motorette Co. will be represented by five vehicles in the Long Island endurance test.

The cup won by its gasoline vehicle at the Philadelphia show in one of the test contests is on view at the offices of the Automobile Co. of America. Mr. Otto says that twelve Gasmobiles have recently been shipped to Europe.

The Electric Vehicle Co. has shipped thirty-three of its carriages for its exhibit at the Pan American.

The Auto Supply Co.'s new automobile parts plant at 310 Mott avenue is now in complete running shape and is busy cutting into its rush of orders.

"Pete" Fisher, the dare-devil chaffeur, has been engaged as demonstrator by the American Vehicle Co.

Leon Schermerhorn, of the Steam Vehicle Co. of America, remarks that his company's silver cup still awaits the steam carriage making the fastest time between the Hoboken and Philadelphia city halls.

A big automobile concern has leased the Herald Square automobile station on 35th street for a branch house, says Manager Blake.



NEW STORE FOR SHAW

The relationship between Bert Shaw and the Mobile company came to an end recently and arrangements are now being made by the former to open a store for

the sale of automobiles on Wabash avenue. The demand for space in that neighborhood makes it difficult to secure a good location but arrangements will probably be made for a place directly across the street from Ralph Temple and within a hundred feet south of the Mobile branch. The location of all these places is within a stone's throw of Michigan avenue, Jackson boulevard and the headquarters of the automobile club.



The United States Power & Mobile Co., which recently took possession of quarters at 100 Beacon street, Worcester, Mass., and which expects to manufacture on a large scale, reports that nothing now stands in the way of commencement but the absence of some of the machinery, which is expected to arrive any day.

According to statisticians the French automobile industry has been extremely profitable to some of the makers. They say that in 1896 the machines exported were valued at 600,000 francs, while to-day they have reached the enormous total of 9,400,000 francs.

There are two automobile companies in Toledo and competition between them promises to be keen. A meeting was held last week to see whether an amalgamation could not be effected, but complications occurred and the attempt was declared off.

The Worcester (Mass.) Rubber Co., with a capital of \$100,000 is likely to be established shortly. Among other things it will manufacture tires for automobiles and cycles.

John Wanamaker, it is said, will open a storage station and school for aspiring chaffeurs at Twenty-third and Locust streets, Philadelphia.





AUTOMOBILE PATENTS AND MECHANICAL TOPICS

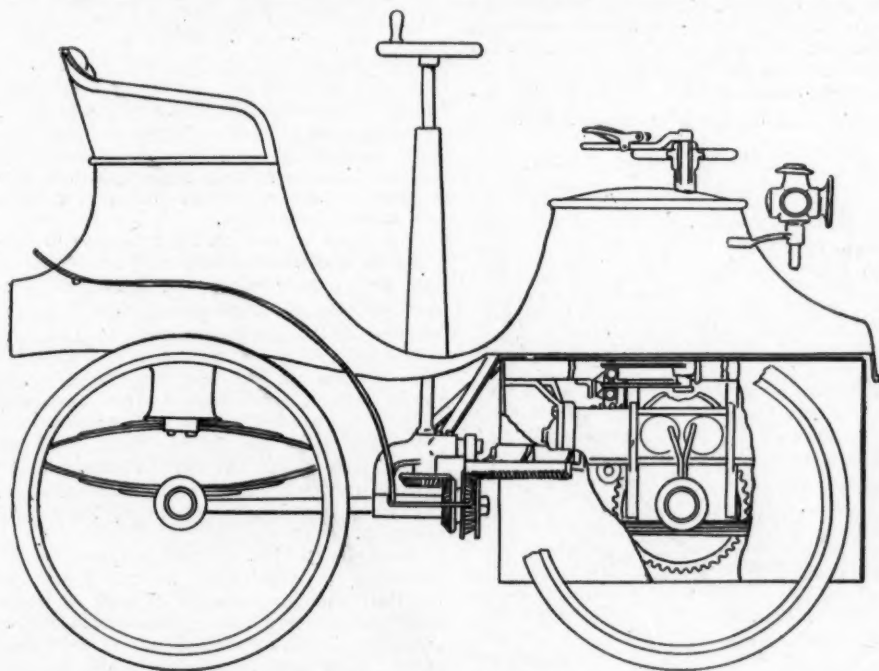


TRANSMISSION of power by liquids, air or gas confined in suitable channels, was for a long time a favorite theme with bicycle inventors and it is now beginning to enjoy a second childhood in the automobile industry.

Letters patent No. 671,575, dated April

good thing to have all necessary working parts in an automobile tied together as closely as possible and suspended from the running gear on one ribbon. Mr. Woosley's vehicle is one of this kind.

The front axle carries a large, short cylinder within which is mounted a dou-



WOOSLEY'S FRONT ENDER.

9, 1901, to William J. Woosley, of San Francisco, Cal.

Many attempts are made, for some reason or other, to combine all of the driving, transmission and controlling factors of an automobile into one bunch, which may be placed on the front wheels. In some cases these inventions are intended as tractors to be attached to vehicles of different description, but oftener they form a part of new patterns of vehicles and thus indicate that the idea has somehow become disseminated that it is a

ble cylinder motor whose shaft is above and parallel to the wheel axle. Between the motor shaft and the wheel shaft is arranged a set of speed changing spur gears and clutches to afford a desirable number of forward and backward drives. So much for the driving and transmission means.

The top of the cylindrical motor casing is attached to a round plate underneath the front of the vehicle body by means of a series of radial rollers in a suitable trackway, so that the cylinder, with its

AUTOMOBILE PATENTS.

wheels, may be turned relative to the body. Between the roller plate and the body is a pair of springs.

Around the back surface of the cylinder and about midway of its height is a segmental bevel gear which meshes with a bevel pinion on the front extremity of a shaft placed longitudinally of the running gear of the vehicle. A rear facing bevel pinion on the same shaft, and immediately back of the first, engages a pinion on the lower end of the vertical steering post, which at its top is provided with a hand wheel. The segmental gear is kept in mesh with its driving pinion by means of a small roller engaging its upper surface and mounted on a stub shaft.

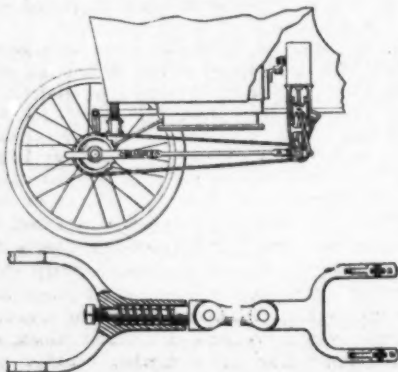
The hand wheel and levers for operating the motor transmission gears and clutches are on the upper end of a vertical post or shaft extending through the top of the front hood of the carriage body. It is obvious that this location would tend to produce on the part of the driver a "humped" effect equal if not surpassing that of the bicycle scorchers.



AN OVERMAN FEATURE

Letters patent No. 671,687, dated April 9, 1901, to James H. Bullard, of Springfield, Mass., assignor to the Overman Automobile Co., of Chicopee, Mass.

The object of this invention is to provide a yielding brace between the engine of a steam vehicle and the driving axle. The brace rod may run either to the rear

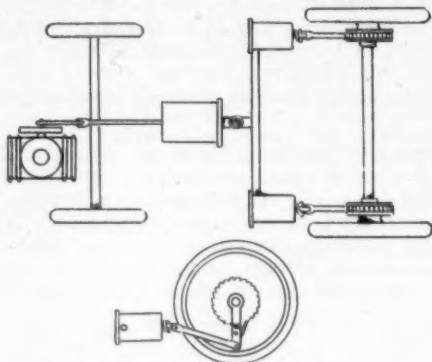


Overman's Latest Device.

axle or to the front. In the illustration herewith it runs to the rear axle.

The engine is pivotally mounted upon or hinged to the boiler. The brace rod is forked at its forward end to attach to the crank shaft end of the engine frame. The arms of this fork are hinged on a horizontal line and the rod back of the

fork is hinged jointed on a vertical line. The rear end of the brace rod is looped to encompass the differential gear box and the sides of the loop are perforated to receive the rear axle. The forward stem of the loop is hollow and receives



Winsor's Transmission Wonder.

the rear end of the brace rod in such a manner that by the interposition of a coil spring a compressional telescopic union is made. The brace rod directly ahead of the telescopic union is hinged on a horizontal line.

The play of the spring telescope is limited to a comparatively short movement so that the yielding of the rod to compensate for torsional and other movements of the engine relative to the rear axle will not allow any great amount of lengthening of the rod, the lengthening being simply sufficient to prevent sudden transmission of jars to the driving and transmission parts. The rod practically maintains the correct distance between the rear axle and the engine shaft to keep the driving chain at its proper tension.

Should the brace rod be run to the front axle instead of to the rear, the spring telescopic joint in it must be made to yield under a pulling strain instead of under a pushing strain as is the case when the rod is a rear axle connection.



THE PROBLEM SOLVED

Letters patent No. 671,505, dated April 9, 1901, to Paul Winsor, of Winchester, Mass.

Mr. Winsor has solved the variable speed problem, and the answer is this patent. There are probably scores of parties now on the road to Winchester to buy the answer. The bidding for it will probably be brisk. Mr. Winsor may be called upon to take the vacant chair left by Herr Daimler.

AUTOMOBILE PATENTS.

The answer, however, is simple. Mr. Winsor provides an engine from which a piston rod operates what is termed the "primary piston" and the "primary cylinder." From this cylinder there leads a branched pipe, each of whose arms leads to a secondary cylinder, in which there is a piston connected to a ratchet driving mechanism on the rear axle of the vehicle. The action of the primary piston compresses air in the primary cylinder and this compressed air passes through the branched pipe into the secondary cylinders and forces their respective pistons outward to drive the vehicle in an obvious manner.

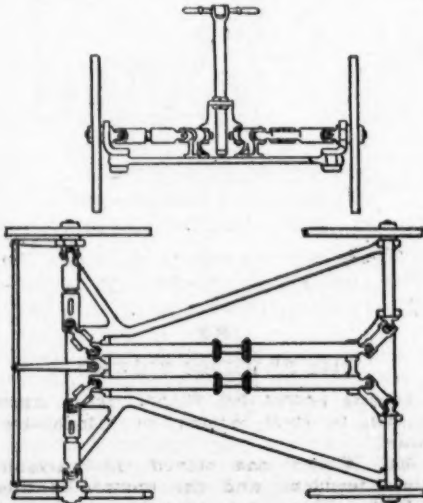
A cock in the branched pipe permits the regulation of the air passage from the primary cylinder and, says the inventor, the decrease or increase in the amount of air let into the secondary cylinders results in a corresponding decrease or increase in the speed of the vehicle. A valve on the bottom of the main cylinder allows the admission of air to compensate for leakage.

It is unnecessary to indulge in further description of the construction and workings of this device. Two minutes' study of the illustration herewith will cause the discovery of all of its wonderful qualities.

ANOTHER FOUR-WHEEL DRIVE

Letters patent No. 671,532, dated April 9, 1901, to John H. Warren and John A. Hoffman, of Cleveland.

In this vehicle the four wheels are



Warren and Hoffman's Driving Gear.

driven by two shafts running longitudinally of the frame and rotated from a vertical motor shaft by bevel gears.

The running gear frame comprises reaches and rigid cross braces at front and rear, each being under its respective wheel axle. There is also contrally of each end piece of the frame a table or small platform upon which rest transmission gear journal boxes. The two sections of the rear axle are driven from the respective longitudinal drive shafts by a pair of knuckle jointed shaft sections, obliquely interposed between the drive and wheel shafts.

The front wheels are mounted on hubs which run in bearings on the extremities of the front cross piece of the frame and are connected with the drive shaft knuckle jointed sections by telescopic shafts knuckle jointed to them. This telescopic shaft and extra knuckle jointing at the front permits the turning of the front wheels to effect vehicle steering, and this latter is accomplished by means of steering links and levers of ordinary construction, the hub levers having their bearing directly upon the hubs, which are thus rotary within them.

DARLEY'S AUTOCARETTE

Letters patent No. 671,856, dated April 9, 1901, to John W. Darley, Jr., of Baltimore, Md.

This patent relates to the construction of a truck or running gear for a heavy electric autocarette or omnibus. The principal objects are to provide, in connection with a strong durable frame, a cushion support for the storage battery tray and to provide means whereby the removal and replacement of storage batteries will be convenient.

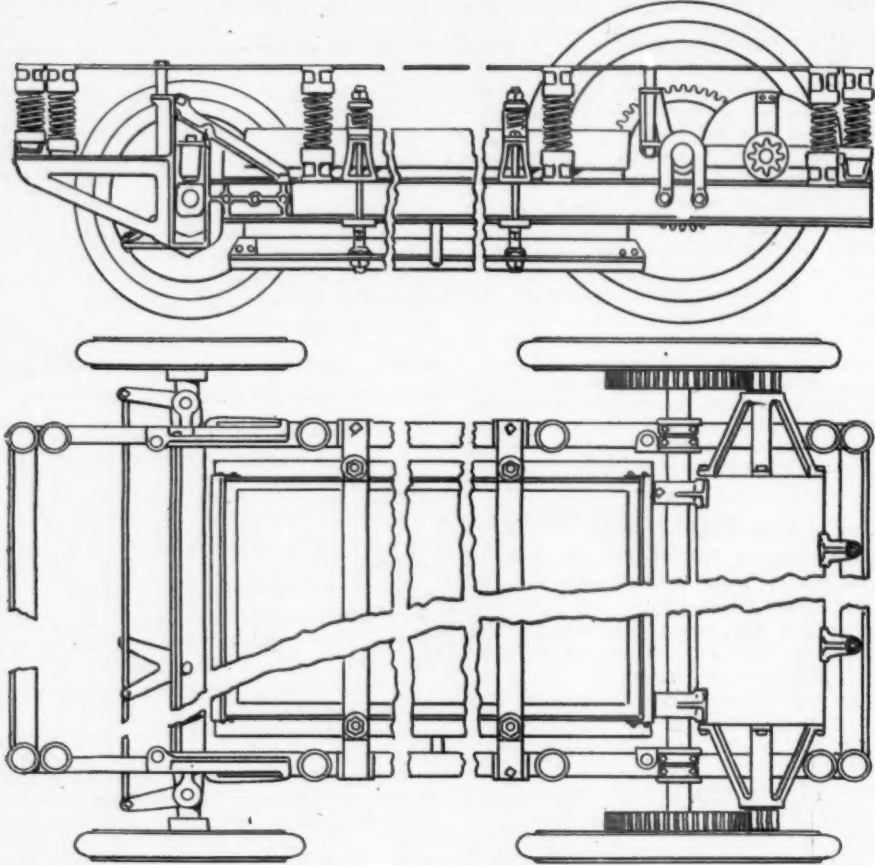
The main frame of the truck comprises two long I beams which serve as side reaches, and are connected at their rear extremities by a channel iron. At the forward end of each I beam is a cast frame which is an extension to the beam and which includes a vertical guide way to receive the front axle. The front end of the extension frames are connected by a channel iron, and the frames above the guide way portions are also rigidly connected. The latter connecting piece has at its center, on the underside, a concave piece, which receives a convex block on the upper side of a timber rigidly attached to the front axle. The axle is thus free to move in a vertical plane, to compensate for rough road surfaces, but is held securely against any other movement by the guide ways of the extension frames.

The rear end of the frame is suspended from the rear axle by U-shaped straps which are flanged to afford bearing surface and which are provided with remov-

AUTOMOBILE PATENTS.

able under sections to entirely enclose the axle. The motor is placed on brackets between the rear axle and the rear cross bar of the frame. It drives the wheels directly by spur gears. The steering mechanism is of heavy but ordinary construction. The body of the vehicle is mounted on coil springs retained by blocks on the truck frame and on side

Longitudinal T irons bolted to the sides of the storage battery tray engage the irons on the bolts. A separable support for the storage battery is thus afforded, so that by running a storage battery truck under the battery tray of the vehicle and raising it slightly, the two T iron engagements will be released and the truck may be drawn from under the



DARLEY'S AUTOCARETTE RUNNING GEAR.

stringers or bars which receive the bottom of the body.

On the central portion of each side I beam of the truck frame are two pillow blocks to which are bolted the respective ends of flat cross bars. Near the end of each of these bars, adjacent to the I beams, are vertical bolts extending downward and supported by coil springs interposed between the cross bars and the nuts on the upper ends of the bolts. The bolts are guided in their up and down movement by projections from the lower side of the I beams, and to the lower ends of the bolts on each side of the vehicle is secured a longitudinal T iron.

vehicle with the batteries upon it. The spring cushioning of the battery tray operates in an obvious manner.

Letters patent No. 670,715, dated March 26, 1901, to John B. Mahana and Adrian A. Pompe, of Toledo, Wash. Driving mechanism in which cranks are replaced by up and down movement pedals actuating a chain which runs laterally over a pair of step sprockets, clutch mounted and which connect with the rear wheel by transmission rods and bevel gears. By changing the chain from one to another of the three steps of the sprockets a change of gear is effected.

HAPPENINGS IN THE BICYCLE TRADE

SYRACUSE, N. Y., April 15.—The pleasant weather the last few days has made glad the hearts of bicycle manufacturers and dealers. They were almost discouraged by the cold and rain with which this section has been afflicted just when the season was opening. Traveling men who have been on the road report the same obstacles.

There are not many Syracuse people who ride for a fad. It is a case of business. The streets are almost impassable at the time people are going to and coming from their work. Syracusans are loyal to home products.

The great demand for the cushion frame keeps up. The same is true of the coaster brake. There will be more chainless cycles sold but it is the opinion of local dealers that they have not "caught on" to any extent.

Another noticeable feature of the trade is the demand for fancy colored bicycles. Staid, sober colors don't go any longer. Yellow, lemon, crimson, olive, white and in fact almost every giddy color is in demand.

Don M. Smith, manager of the Olive Wheel Co., has just returned from a trip through the eastern states. He found that the season there was about three weeks behind on account of the bad weather. He closed some good deals in Boston, Lynn, Mass., and several cities in Connecticut and other New England states. Every salesman he met while on his trip had the same story—rain. The Olive company reports that the trade is booming in central New York and expects to do a much larger business in Rochester, Utica and the nearby cities than it did last year. A carload of bicycles will be shipped next Tuesday to Los Angeles, Cal. In accordance with the demand for giddy colors, the Olive racer this year is a lemon yellow with a maroon head.

C. J. Iven, of C. J. Iven & Co., of Rochester, who is the agent for the parts made by the I. A. Weston Co., was in town this week. He travels all over the country. There are comparatively few companies, he says, that are supplying bicycle parts. A good many of them have been weeded out and it is a case of sur-

vival of the fittest. More cycle manufacturing firms are making their own parts. The I. A. Weston Co. is still running nights and has all the orders that can be filled.

The W. A. Doubleday Co. is doing a big jobbing business in bicycle parts and sundries. The store in South Warren street is being refitted and will be completed in a few days. Considerable money is being spent and the result will be a handsome place to display bicycles. The walls are being repainted and the whole store is being redecorated.

Two local machines which are having a large sale are the Onondaga and the Clinton, made and sold by H. R. Olmsted & Sons, No. 413 South Clinton street. This firm does a large jobbing business and wholesales sundries and tires.

FACTORY TO BE SOLD

The factory of the Indiana Novelty Co., formerly engaged in the manufacture of wood rims, is to be offered for sale on May 22. At the time of the organization of the cycle combine the factory passed into its possession and was later sold to the American Wood Rim Co. by which it is now owned. Before these transfers, however, the old company had been involved in financial difficulties and it is announced that the attorneys have only just succeeded in straightening these to the satisfaction of the creditors. The property consists of five acres of land, buildings, machinery, engines and office fixtures.

STEARNS—A. B. C. DISPUTE

Unless the parties to the dispute manage to patch up a truce there are prospects of a first-class lawsuit between E. C. Stearns and the American Bicycle Co., in which, incidentally, others may be drawn. The Stearns plant was one of those absorbed by the A. B. C. Mr. Stearns was made a director of the new company. After awhile he resigned. That is all the public is supposed to know about it, but there was more on the inside

CYCLE TRADE HAPPENINGS.

which now seems likely to come to light.

When Mr. Stearns resigned it was said in the trade that he did so, practically, under compulsion. It was commonly believed that he would cease to be a director as soon as the others could manage to drop him. Why, nobody seemed to know. Now the A. B. C. claims that Mr. Stearns is making bicycles in violation of an agreement entered into at the time he ceased to be a director. The supposition is that Mr. Stearns agreed, for some consideration, not to manufacture. He claims that he is not doing so, but the opposition claims to have evidence that he is.

Herbert E. Maslin, Edward C. Stearns, Mrs. Avis Van Wagenen, E. C. Stearns & Co., the Bretz Cycle Mfg. Co., the Frontenac Cycle Company and the Stearns Bicycle agency have all been drawn into the quarrel, supposedly on the ground that they are controlled by Mr. Stearns.

"The trouble," says the Syracuse correspondent of this paper, "has only just commenced. Mr. Stearns refuses to sign the agreement which the trust men want him to sign and says there is nothing in their claims that he is manufacturing bicycles contrary to his agreement when he sold out to the trust. Hey & Parsons, attorneys for the American Bicycle Co., however, say that they have conclusive evidence that Mr. Stearns is interested in certain bicycle companies in Syracuse, is putting up money for them and realizing profits therefrom. Suits will be brought soon, it is rumored, and the case will be thoroughly tested in the courts."

GOOD TIRES FOR BUFFALO

Buffalo, April 15.—The local representatives of the rubber houses report a large individual trade in the better grades of tires and a good trade in cycle rubber goods generally. The tire trade is pronounced the best that the local houses have enjoyed for some time. These conditions are attributed to the trouble experienced with the poor quality of tires with which a large share of the medium and cheap priced bicycles were equipped. These were of such extremely poor quality that a short period of use rendered them practically useless, which necessitated an additional outlay by the multitude of unfortunates. Just about this time the city became flooded with a cheap, worthless article and these were eagerly sought by the multitude of unfortunates only to find themselves equally as bad off after short use. Numbers of riders put away their machines early in the season having become disgusted with cycling, but they are out in additional

numbers this spring and are buying nothing but the best tires.

The local Rambler agency held open house on Saturday. Music and souvenirs attracted a large gathering and a substantial order list was the result. Much complaint is being heard of the slowness on the part of the big company in filling orders for parts of its various patterns. Just now dealers are in receipt of many orders for parts which they believe are in stock, but which take so long a time to get that it would seem that the parts had to be made. Riders want to put their machines in commission, but cannot for lack of some trifling part, and much impatience is shown at the seemingly inexcusable delays.

ALL RIGHT AT BLOOMINGTON

Bloomington, Ill., April 15.—The decline of the bicycle is not yet, according to the reports of dealers in this city. So far this spring the business has been unusually good considering the few pleasant days that there have been. One dealer who is a veteran in the business in this city, says that he has sold more cycles this year than he ever did in the corresponding time of any previous year.

The more bicycles there are ridden the more business there is for the bicycle repairer, and the latter have been experiencing a busy time this week. They also repudiate the theory that the bicycle is on the decline. A man who not only runs a repair shop but also sells wheels summed up the situation yesterday as follows: "This colored supplement talk and feature articles in the newspapers about the decline of the bicycle is all a mistake. It has come to stay and the number of them in use increases each season and the more of them there are in use the more repairing there is to do. The business is all right except when it rains."

TOLEDO DEALERS GAIN

Toledo, O., April 15.—Local bicycle dealers report a great gain over last year in the sales of bicycles and sundries. They say that there is an increase of over 75 per cent over last year's sales thus far, and that the sale of wholesale and retail goods is opening up nicely, with much higher grades and better prices than last year.

IVER JOHNSON'S OPENING

The managers of the Fitchburg store of the Iver Johnson Co. were astounded at the success which attended their late opening. The weather was abominable

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but good music and good bicycles proved a drawing combination and the attendance was greatly in excess of what had been hoped for under fair conditions. From 6 o'clock until the crowd thinned out on the street, the big double doors at the store were letting in and out constant streams of humanity, and at least 3,000 people called before the store closed. Nothing like it was expected, for bicycle openings have rather gone the way of some other things the past few years.

For the occasion the store had been handsomely decorated with flags, flowers and materials from the big stock in the store and it never looked prettier. At one end of the store an orchestra was stationed and gave an excellent concert programme during the evening.

NEW POINT OF LAW

A meeting of the creditors of the March-Davis Cycle Mfg. Co. has been called for April 18 at which time a trustee will be appointed. The creditors have been advised that the receiver will, at that time, be in a position to turn over the business in good shape and with a great part of the accounts due the company at the time of the failure, paid up.

An interesting point has arisen in connection with the failure. The company had been in the habit of paying its men by checks. These checks passed into the hands of grocerymen, saloon-keepers, brewers and others, who now claim that they are entitled to preference as if they were actually the employees. They have a dozen lawyers on their side. The matter will come before the judge of the United States district court for a decision.

COLONEL DODGE WINS AGAIN

The long-pending suit of Booth and others against Colonel Dodge and others, involving the validity of the transfer of the patents and business of the Tillin-ghost Tire Association to the Single Tube Automobile & Bicycle Tire Co. seems, at last, to have been definitely settled. Advices from New York are to the effect that the decision of the lower court, which held that the transfer was legal and valid, has been unanimously affirmed by the Appellate Court of the Supreme Court of New York.

TELLS OF PROSPERITY

Worcester, Mass., April 15.—Bicycle repair shops in Worcester show renewed interest in cycling with the opening of April weather. City streets have been fit for riding several days, and the young

folks are out in large numbers. Hundreds of men and women have got their bicycles out and are getting them ready for handy use between their homes and places of industry for the open season. Many new machines are noticed on the street for trial spins. More riding is expected this year than was indulged in last season. The bicycle clubs are ripening plans for runs to open the ball. Professional racing at the coliseum will open early, and altogether Worcester will make more of the bicycle every way than usual.

RETAIL TRADE MISCELLANY

The following additions have recently been made to the list of dealers and repair men of the country: Fred Saddler, Manchester, Conn.; Mr. Revers, Manchester, N. H.; J. F. Paquette, Manchester, N. H.; Percy Shaw, Lewiston, Maine; Mr. Wither, Newport, Vermont; M. T. Caswell, Grand Forks, N. D.; Henry Yeager, Spirit Lake, Iowa; J. S. Allen, Southampton, N. Y.; Tom Manning, Norwich, N. Y.; Knutson & King, Adams, Minn.; J. L. Tanner, Gloucester, Mass.; William Knepka, Norwich, N. Y.; Charles M. Schooley, Brookton, N. Y.; George Boynton, Dover, Me.; W. H. Bartram, Wyoming, Ill.; H. J. Moss, Utica, N. Y.; F. E. Lang, Traverse City, Mich.; Frank E. Williams, Burlington, Vt.; Jay Parkinson, LaPorte, Ind.; S. Rose, Duluth, Minn.; Pickard Bros., Brockton, Mass.; Columbia Bicycle Store, Leominster, Mass.; J. R. Roberts, Delphi, N. Y.

The following changes of firms who handle bicycles have taken place during the past week: Fox & Hill to Geo. Hill, Ardoch, N. D.; Esbeck Bros. to M. N. Esbeck & Co., Kimballton, Ia.; W. A. Folkerts to Mrs. F. A. Hain, Lake City, Ia.; J. H. Walburn to W. B. Shively, Glenville, Neb.; Ord Hardware Co., to Russell & Sorenson, Ord, Neb.; Bryan Bros. to Elcher & Graft, Scottsdale, Pa.; A. W. Wilhite to Wilhite Bros., Garden City, Mo.; Zager & Denton to H. C. Ballard, Panora, Ia.; Henry Gilbert & Co. to A. MacEachran, Goldfield, Ia.; Dorr Miller to R. R. Farragher, Hartley, Ia.; Story & Hanamann to T. A. Hansmann, Bucklin, Mo.

For a jobber in a small town the Yarmouth (N. S.) Cycle Co. issues a pretentious catalogue. A copy just received seems to illustrate practically all the goods needed in the cycle business.

Fifty bicycles were ruined by a fire at the store of James A. Conway, at Boston,

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last week. The loss on the stock was well insured, but there was no insurance on the building, which was damaged to the extent of \$500.

The Soucy Bicycle Co. has been incorporated under the laws of Maine with a capital of \$200,000. George F. Gould, of Portland, is president, and Fred K. Daggett, of Malden, Mass., treasurer.

The business men of Manistee, Mich., have organized a bureau of promotion and are prepared to negotiate with desirable industries with a view to having them locate there.

Gilkey Bros., hardware and bicycle dealers of Marlow, Ind. Ter., is succeeded by Gilkey Bros. & Jarbow. This concern operates branch stores at Chickasha, and Duncan, Ind. Ter.

J. E. Jones, of Terre Haute, Ind., has the motor bicycle fever and is making an attempt at manufacturing. He is at present experimenting with an ancient machine.

Geo. N. Olmstead, the well known bicycle dealer of Hartford, Conn., has taken in a partner, and the firm will now be known as Olmstead & Zeigle.

MORE COMFORT FOR RIDERS

What shall be the next thing in the line of improvement?

We have coaster brakes, cushion frames, pneumatic tires and many other anti-vibratory devices. What of the spring seat post?

The question arises through a communication from a gentleman well known in the trade but who desires to be kept in the background. His communication on the subject is here reproduced:

"For some time past," he says, "I have been pondering over the situation as it exists to-day in relation to spring seats and posts as regular equipment for bicycles and I have come to the conclusion that something should be said by somebody. I therefore wish to furnish a few facts and leave you to decide whether a few words to the dealers and manufacturers might not be of value to them and result in a revival of the bicycle business, to quite an extent, by making happy and contented riders.

"These are some of the facts learned by your humble servant, in his experience of the last five years:

"The manufacturer refuses to equip his bicycles at the factory for the reason that a spring post would cost him about 40 cents more than the ordinary rigid one. This would mean \$400 extra outlay on 1,000 machines and he says and does all he can to discourage the use of the new device, when, in fact, a spring post is of more real value to the manufacturer of a bicycle or its rider than other accessory yet thought of.

"When a spring post is used you hear no complaint about the saddle not being comfortable. Any old or new saddle is all right. If the manufacturer would equip with spring posts would he not re-

ceive enough extra business to pay for the trifling extra cost? I am sure he would. An increase of five per cent in the number of bicycles sold would repay him, and I will wager that if a spring post was offered as an equipment he would increase his business twenty per cent for the reason that when once a person has used a spring post he never goes back to the rigid, but advises his friends of the comfort of it.

"In my own personal experience I can truthfully say that I have restored more than one hundred machines to their riders after they had abandoned them, by the application of a spring post.

"In the face of these facts is it not apparent to you that the manufacturers are partially responsible for the falling off in the demand for machines? I say to you, in all sincerity, that if you want to knock the enthusiasm out of a person on a bicycle, inflate the tires well and send him down the pike. Spring posts can be made the redeemer of bicycles if their true value be made known and appreciated.

"The dealer hesitates to encourage the use of them because, since the manufacturer will not furnish them he would have to furnish them himself and thus cut off his profit when selling a new bicycle. He could not get the extra cost of a spring post and would be obliged to throw it in to make the sale.

"Thus you see that the manufacturer and the dealer who would profit most by the encouragement of a spring post, are the ones who do all they can to smother it. Nevertheless, I predict that by the end of 1902 or 1903 a bicycle without a spring post will be as rare as those with them to-day."



CYCLING SPORT AND PASTIME



PHENOMENON though he may be, Major Taylor, a stranger in a strange land, troubled by a climate of which he had never experienced the like, delayed and discouraged in his training by the weather, could hardly be expected to show his heels to the foreign riders from the start of his racing career in Europe. Years have elapsed now since Zimmerman, until this time the greatest racing man who ever crossed the Atlantic, made his first appearance on European tracks. We all remember how, at Brighton, on the south coast of England, he was beaten in his first trial. Nor was he successful for some weeks thereafter. What matters it, then, that Taylor met with a reverse in his first race in Germany? He was competing with the best men in the country, one of whom had at one time won the championship of the world. The more surprising part of the news from the other side is that, two days later, Taylor turned the tables on his conquerors and made them look like novices by winning by twenty lengths.

These events took place on the Friedenau track, Berlin. The only information so far received is a brief announcement by cable. Between this time and next week the German papers will come to hand. One of the latest papers received from Paris states that Taylor had been obliged, by the bad weather, to confine his training to punching the bag and other indoor exercises, greatly to his disappointment.

The popularity of the Major increases daily. He is as much talked about as the premier. In a letter to a friend in Chicago, a well-known Paris journalist says:

"We did not believe all you said about your champion when you were in Paris, but now we cannot deny anything except, we hope, that Jacquelin is his superior. Among the many riders who have visited us during the last five years not one may be compared with him in the matter of politeness and good behavior.

"We were literally amazed to find him better educated than the average foreigner who comes over and possessed of far

better manners than our own riders. When we think of some of the harsh treatment to which this man has been subjected on account of his color we cannot refrain from uttering the strongest words of disapprobation of such acts nor from thinking that some parts of your country must be in a state of savagery.

"Taylor is already more popular than Zimmerman was. Should he defeat Jacquelin I cannot venture to predict to what lengths the people will go. He will be carried around the track in triumph.

"The receipts for the day will be a record breaker. Manager Desgranges told me today that people are already willing to pay ten dollars for a seat near the tape, a price quite unheard of heretofore. As the velodrome will hold 18,000 people, the lowest price will be about thirty cents and other seats will run as high as five dollars, it is estimated that the gate receipts for the day may run as high as \$6,000."



FIVE THOUSAND DOLLAR PURSES

New York, April 15.—William A. Brady seems to be very much in earnest in his ambition to promote racing on a large scale at Manhattan Beach. The young theatrical and sporting promoter is a plunger of the first water and has always cherished the notion that New Yorkers will patronize any event that is made large enough for them and that with the added attraction of international competition a New York race track can draw as big a crowd as a Paris course, where literally tens of thousands turn out to see a star cycling event.

Should Batchelder's efforts in behalf of Buffalo and the national circuit result in a practical transfer of the foreign star brigade to this country, Brady's idea is to establish Grand Prize races of \$5,000 each for both middle distance men and sprinters on as large a scale as the Grand Prix events at Paris.

An eight-hour motor paced race starting at 9 in the morning and finishing at 5 in the afternoon, a six-day motor paced

SPORT AND PASTIME.

race two hours a day, and a 24-hour motor paced race are among the contests open to the world he has in contemplation. Night meets are also in view.

W. A. Elkes, who has an option on Ambrose Park, called at the Cycle Age office to-day.

"I do not propose to interfere in any way with Mr. Brady's big schemes for Manhattan Beach," said he. "I believe people will patronize to a paying extent the big money contests he proposes to promote and he has the pluck and the capital to pull them off successfully. New York is naturally the great sporting center and as such it has never been fully tried out in the cycling line. The great crowds at Madison Square Garden prove this and the two or three races Michael rode at Manhattan last summer were no real test of the public's possible patronage. I think, however, that some races in June and in September at Ambrose before and after the Manhattan Beach season would pay and I am going to have a try at it on Decoration Day. I am thinking of some sort of a team race with Harry and Michael on one side against a pair picked from Pierce, Gimm and McFarland for fifty miles. Michael is not under my management, nor is he a team mate of Harry's. When I determined to secure Ambrose Park for May 30th I got Jimmy to contract to ride there that day so I could be sure to have at least one good man beside Harry."

RACES FOR CHICAGO

The Associated Cycling Clubs of Chicago will make an effort to secure the use of the Ravenswood track for a number of races this summer. A committee has been appointed to call on the local trade and ascertain to what extent, if any, they will be willing to support racing. The members of the association believe that if they are willing to give their time and attention to the work the trade, for whose benefit they are doing all the hustling, ought to be willing to contribute, to some small extent at least, to the fund necessary to carry out the programme.

OLD EVENT REVIVED

The Forest City road race, at one time one of the classic events of the cycle season—a race which attracted riders from all parts of the country and which, with the decline of interest in cycling went out of existence, is to be born again. The most pleasing feature of the affair is the fact that it is to be revived by old timers who helped, by their speed, to make it famous in the days gone by.

A. G. Harding and E. L. Morgan have secured a permit to use the old twenty-mile Forest Park course for a handicap road race to be held Saturday afternoon, June 8. If it proves a success the event will be repeated in 1902. Easter Sunday used to mark the real beginning of the cycling season and the promoters feel that the chances are better now for a good season than they have been for some years.

In getting up the race an effort will be made to bring all the crack riders together. There will be two time and numerous place prizes.

WILL MANAGE TOUR TO BUFFALO

For the last month Cycle Age has been considering the promotion of a tour to the Pan-American Exposition. The Associated Cycling Clubs commenced to figure on the same thing at about the same time and, as late discussion has developed, a number of others have had serious thought of attempting something in the same direction.

On the invitation of the president of the association a representative of Cycle Age attended a meeting on Monday evening. A committee, previously appointed, made its report, asserted its belief that the tour could be made a success, and recommended that its management be placed entirely in the hands of the representative aforesaid. The vote of the meeting was unanimously in favor of the committee's recommendation.

The meeting appointed Mr. Katz to assist in the development of the tour, and on Thursday of this week there will be a meeting between that gentleman, the new L. A. W. officials and the manager of the tour, to formulate definite plans.

Clubs and individual riders in all parts of the west will be asked to co-operate. Milwaukee and Minneapolis have already consented and taken hold of the matter with a will. Detroit has promised entertainment galore and a good-sized contingent to accompany the tourists.

The tour will take place in August. The L. A. W. meet and the championship races are scheduled for August 12 to 18. The western party will leave Chicago in two bunches. Those who desire to ride all the way will probably start on Saturday, August 3 and proceed to Detroit at such pace as will bring them there about the following Tuesday night or Wednesday morning. The remainder will leave by train Tuesday evening, spend Wednesday in Detroit as the guests of the Detroit Wheelmen and the whole party will leave Thursday morning, going by way of Canada to Buffalo and arriving Sunday night or Monday morning.

The main body will take things easy.

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Provision will be made for those who desire to travel at greater speed, but each evening the whole party will round up at some place at which arrangements will have been made for their entertainment.

It has been suggested that arrangements be made to have an automobile follow the procession to carry the baggage. This plan will probably be adopted. The promoters of the tour will at once ask the clubs of the city and of the entire west to co-operate with them. For the present those who desire to be kept posted as to the progress of events are invited to communicate with the Cycle Age.

PLANS OF PROMOTERS

New York, April 14.—William A. Brady, the Manhattan Beach lessee, and W. A. Elkes, who secured an option on Ambrose Park, both applied for sanctions for May 30th for big paced races. Secretary Alfred Reeves, of the Board of Control, suggested diplomatically that both meet and avoid a clash of dates. They accepted the suggestion. Mr. Brady was easily persuaded that Decoration Day was far too early a date at the wind-swept track for a big \$2,000 paced race and will probably wait until June 15th to inaugurate his big field middle distance races for large purses.

Elkes' idea for a sweepstakes at \$250 each with his son and Michael in did not meet with much favor from the other middle distance cracks and he will probably be persuaded to offer a big purse well split up instead for a half a dozen riders. There are many who believe in near by Ambrose Park as a successful possibility under proper conditions and particularly that it may prove a bonanza through night meets, judiciously promoted.

The Jacksonville brigade of middle distance men, Harry Elkes, Bobbie Walthour, Frank Cadwell and Jimmy Michael, with "Pop" Elkes and Tom Eck, their trainers, and their pacing crews, arrived on Friday all looking well and in the pink of condition for an early campaign. Walthour will go to Boston at once to prepare for Friday's race with Stinson and Nelson at Charles River and the same day Cadwell has a match on with Joe Downey at New Bedford.

Jimmy Michael will pursue his training at Springfield and Harry Elkes will join the brigade at Ambrose Park, where a big bunch of metropolitan cracks is in training awaiting the completion of the new track at Vailsburg, which is promised toward the end of this week.

The news of the easy victory of Major Taylor over Willie Arend and the other

German cracks at Berlin increased largely the hopes of his admirers here of a favorable outcome of his match with Jacquelin at Paris on May 16th. Taylor is reported to have won by twenty lengths, which indicates that the crafty negro made an early jump and was running away with the race before his competitors realized what was happening. This has been Taylor's method in his important matches here and this quick and unexpected jump of his may win the match with Jacquelin before the marvellous French sprinter can get up top speed with his big gear.

W. S. Fenn, last year's easy amateur champion, will be put to his best paces at the very start of his professional career; for at the Vailsburg opening on May 5th he is matched to meet at mile heats Frank Kramer, who was just as easy an amateur champion in 1899.

A cycle racing scribe just returned from Boston reports such a crowd in training at Charles River Park that the spacious quarters are well nigh inadequate to accommodate them.

LEAGUE WORK IN ILLINOIS

Truly the old war horses of the cycling world are returning to life and Chicago has set an example to the remainder of the country. Last Saturday President Earle, of the L. A. W., came over from Michigan to find out how many faithful followers there are remaining in Illinois. The result was pleasing to all parties concerned.

A meeting was held at the athletic club, at which assembled, in addition to Mr. Earle, Burley B. Ayers, one of the veterans of veterans, Tom Sheridan, an ex-vice-president of the league, George Greenburg, of the N. C. A., John Siman, president of the Associated Cycling Clubs, Colonel Moore, president of the National Goods Roads Association, Secretary Richardson of the same organization, and a representative of this paper, who can hardly claim to be a novice in matters pertaining to cycling. After lunch the party, or such part of it as could spare time, attended the run of the automobile club. Later in the day there was another meeting and the persons present got down to business.

The whole proceedings were informal. Mr. Earle was anxious to secure a chief consul for the state who might be relied on to render efficient service. To cut a long story short, Mr. Sheridan finally agreed to accept the position and Burley Ayers agreed to accept the secretaryship. There could hardly be found in the whole country as valuable a combination, or one embracing as great experience.

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There was a lengthy discussion of road improvement work and as a result it is more than probable that some arrangement will be made under which the L. A. W. and the road association will work together for the common good.

The National Good Roads Association is a comparatively new institution to many men whose sympathies are with the work it has set out to do. Colonel Moore has long been an ardent good roads advocate. He has given a lot of time and money to the work of organizing meetings and it was he who called together the men who attended the meeting at Central Music Hall last fall.

The association, in its present form, was practically born at that time. Its plans are not even yet definitely formulated and it is seeking to secure the co-operation of all organizations—the carriage dealers, cyclists, machinery men, farmers, automobilists, etc.—in carrying on the work it has in hand. It has published, in magazine form, a report of the proceedings at the Central Music Hall meeting and intends to publish, regularly, a magazine devoted to road improvement.

Following up the meeting of Saturday last it is likely that definite plans will be formulated for an alliance with the L. A. W. The automobile clubs are next in line. An attempt will be made to reach and interest them in the near future. The association's offices are in the Marquette building.



GOOD WORK BY CHICAGO CLUBS

Fifteen good men and true attended a meeting of the Associated Cycling Clubs of Chicago, at the Sherman House, on Monday evening.

One of the interesting features of the evening was a report by Mr. Ayers, chairman of the roads committee, of a visit to Springfield and an attempt to secure the passage of one of the many good roads bills now pending before the legislature. There were about fifteen persons in the party, representing all sorts of interests.

The committee at Springfield paid close attention to the speeches of the delegates but the net result was that all came away convinced that there is little or no chance of the passage of the bill at this session. "But we have nothing to grumble about," the chairman concluded. "We find that in all parts of the state road improvement is making great strides and even the farmers are now willing to listen to reason. If we live long enough we shall see as fine a lot of roads in this state as in any other in the country. All that we can do is to keep pegging away without getting disheartened."

"I am convinced, from my experience at Springfield, however, that whatever

we accomplish must be done in some other guise than as cyclists. The farmers still have the same old idea in mind, that they object to the payment for good roads simply for a lot of city fellows to scorch on. They know that their interests are the same as ours, but are more ready to listen to men of some other class."

The association decided on the promotion of a tour to the Pan American exposition, under the management of Cycle Age. Further details of the event will be found in a separate report.

One of the best things decided on was the promotion of a dinner, at which a reunion of old-timers will form an interesting feature. A committee, appointed to make arrangements, at once visited the athletic club and it is practically settled that the event will take place there on May 11. About 500 invitations will be issued and the greatest care will be taken to include in the list all of the veterans who can be found in the city. It is intended to ask Mayor Harrison and a lot of other celebrities to be present and address the gathering and to make the event, in all respects, one calculated to infuse new life into the sport.

The association made an appropriation for the use of the committee in charge of the Fourth of July road race and appointed a committee to look into the feasibility of promoting the district championships for medals offered by the American Bicycle Co.

The association will meet again about ten days hence.



HONOR FOR A VETERAN

At the last meeting of the Canadian Wheelmen's Association,—the nineteenth annual gathering of that organization,—there passed into the ranks of high privates a man who has done more hard work for cycling in the Dominion than any other, and with an entirely unselfish motive. Hal B. Donly, of Simcoe, resigned the secretaryship and was rewarded for his faithful service to the association and to cycling generally by the adoption of the following resolution, moved by Doctor Doolittle, of Doolittle brake fame, himself a veteran:

"That the association, in annual meeting assembled for the first time since the resignation of Hal. B. Donly from the secretaryship, cannot let this opportunity pass without putting on record our high appreciation of his long and faithful services to the association, and that his name occupy the head of the honor list of life members."



The Boyce Cycle Pump Co., of Chicago, has been dissolved.



FURTHER EVIDENCE OF A BIG REVIVAL



THERE is a further accumulation of evidence of the increased interest in cycling. One of the important items is the return to the road and to interest in cycling generally of many veterans. Reference to them, in detail, will appear from time to time, but their enthusiasm is of a kind calculated to do a great deal in the direction of enthusing others.

The latest bit of interesting gossip is the renewal of the old Forest Park road race at St. Louis, and the most pleasing feature of the whole thing is the fact that its promotion has been undertaken by Bert Harding and others who were prominent in cycling years ago.

All the prominent men of Minneapolis have been interviewed during the last week, and without a dissenting voice they agree that the interest was never greater. C. H. Vanderhoof, secretary of the Associated Wheelmen of Minneapolis, may be taken as a good sample. "In the first two days of the open season this spring," he said, "there has been a greater turn-out of wheelmen anxious to have a first spin over the dry spots than ever before at this time in the history of the city. There were as many wheelmen out last Sunday as you ordinarily find on an ideal midsummer's day. The stores are all crowded and buyers are so anxious to have the latest and best that they are examining every new model in the market before making a choice. All this shows a renewed interest. General conditions are more favorable for cycling than ever before.

"The Associated Wheelmen, an organization which has been looking after wheelmen's interests in a business-like way, with tangible basis to work on, has commenced the campaign early. We have the county and city officials working on plans for cycle paths already, and are proceeding along intelligent lines for larger undertakings in the future. As a direct result of our efforts the county commissioners will this season build to Anoka, Bloomington and Shakopee.

"The cycle tag sale is booming. The city clerk has sold already 3,000 tags and this before any contemplated work on paths has been touched. I confidently believe

that before the end of this season the sales will approximate from 45,000 to 50,000. We will get better results from expenditures this season, too. The city engineer will make the funds go further. He has a better understanding of his work and the manner in which it should be prosecuted after his experience of last year."



Details of the good work which has already been started in Chicago will be found elsewhere in this paper. Down in Rhode Island the enthusiasts assert that the interest will be up to the high-water mark of three years ago. They are making an attempt to boom the membership of the local division of the L. A. W., having renewed the road improvement agitation, and are making up parties to tour to the league meet at Buffalo. Providence has now five clubs, all of them, apparently, booming.

Club activity is noticeable everywhere. The New York state division of the Century Road Club will hold its opening run on Saturday. Buffalo has a round dozen clubs, all of them of sufficient importance to receive attention each week at the hands of the local papers. They are due for a busy season, especially as the time of the league meet approaches.

Detroit men are active and are devising ways and means of taking care of the touring parties which will pass through the city en route to the meet and the Pan-American Exposition. They have promised that there shall be no lack of entertainment when the Chicago-Milwaukee-Minneapolis tourists reach there about the middle of August.

Taken all-in-all there is an excellent opportunity for those who have been active in cycling years ago to come back into the fold and meet the people with whom they were then on intimate terms and many others who have come into the game since. Having set the ball rolling the pioneers are entitled to all the support it is possible for the world of cyclists to give them. There is a good opportunity to prove the error of the supposition that the good times which were once inseparable from cycling have gone for ever.



BUDGET OF BICYCLE INVENTIONS



LETTERS patent No. 671,478, dated April 9, 1901, to Johannes Grimme, of Berlin, Germany.

Herr Johannes Grimme, who is described as a subject of the King of Prussia, German Emperor, and a resident of Bochum in the Province of Westphalia in the German Empire, has expended much mental effort and the price of a patent on what he describes as an invention which relates to improvements in velocipedes, and has for its object to provide a hand propelling mechanism for such vehicles.

The introductory description as given in the patent is unique and is as follows:

"A chief feature of my invention is that the center of gravity of the vehicle never is altered, as hitherto was the case with the mechanisms generally employed.

"A second feature of my mechanism is its great simplicity.

"The purpose of my invention is to render bicycle riding more safe and to allow of all force of the rider being utilized.

"In my invention I employ levers moving like ordinary handle-bars in a horizontal plane. These levers are arranged

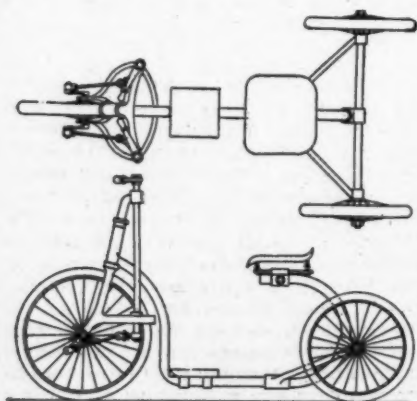
superfluous to employ the feet for this purpose."

After this very glowing description of his invention Herr Grimme proceeds with directions for its use in this way:

"The rider sits upon the saddle and reposes his feet upon the step-board. The levers are arranged symmetrically to the center line of the vehicle and act upon vertical shafts, arranged laterally to the frame of the front wheel. These shafts at their lower extremities are provided with levers, actuating, by means of a connecting-rod, the cranks, fixed to the driving-axis of the front wheel. The cranks are mounted so as to project in one direction, but not, as ordinarily, under a certain angle. This is for the purpose of allowing all forces when riding the machine to be exerted upon the axis of the wheel from one and the same direction, owing to which only the driving and steering of the machine simultaneously is rendered possible. When the hand-levers are moved horizontally, the levers oscillate, while the cranks describe a circular movement in vertical plane. To effect this movement, both connecting-rods are connected with the cranks and levers by links.

"In the construction as illustrated in the drawings single levers are provided, being adapted to be moved forward or backward in the manner of oars."

Regardless of any opinions not over favorable to the professor's invention, he is entitled to credit inasmuch as, in his picture at least, he shows it applied to a tricycle which is better than the generality of cases wherein these fancy devices are applied to two wheels.



in such manner that the vehicle always is in equilibrium.

"The hand-propeller forming the subject-matter of my invention is sufficient for driving the vehicle and it is absolutely

COOLEY'S CHAIN GUARD

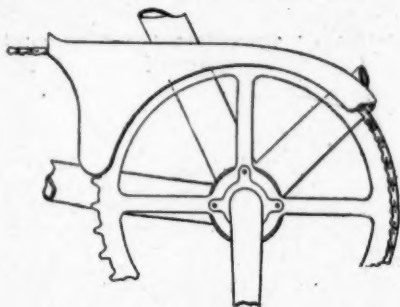
Letters patent No. 671,816, dated April 9, 1901, to Lester D. Cooley, of Battle Creek, Mich.

Mr. Cooley's invention carries the old timer back to about ten or twelve years ago when an occasional rider was found wearing long trousers. It is a chain guard or, as he describes it, dress guard, practically the same as the old padlock shaped

BICYCLE INVENTIONS.

piece of tin which some English makers put over the top of the driving sprocket. As the drawings show all there is to this device a description is unnecessary.

Two claims are allowed which cover a dress guard for bicycles, comprising a cover adapted to extend over the top and upper rear quadrant of the sprocket wheel provided with side walls and with a



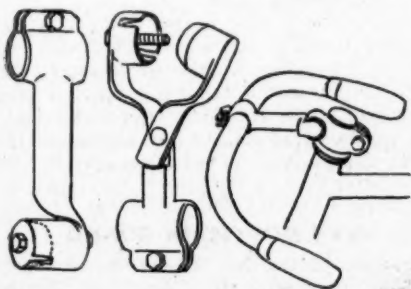
rear wall uniting the side walls beneath the chain opening.

This rear wall is really the only point wherein Mr. Cooley's device differs from the old-style guard before mentioned.

HANDLE BAR EXTENSION

Letters patent No. 671,647, dated April 9, 1901, to Albert H. Field, of Providence, R. I.

This patent refers to a handle-bar extension and connecting device wherein two objects are set forth: By virtue of its design the amount of extension beyond the line of the head stem is variable. Another point covered is the abandonment of the handle-bar stem as generally employed and attachment of the bar by means of a clamping collar or similar device, directly to the fork stem which, it is



intended, shall project above the upper head bearing with this purpose in view.

The part of the device to which particular attention is given is the extension. This is hinged to the clamping collar at one end and the handle bar proper is

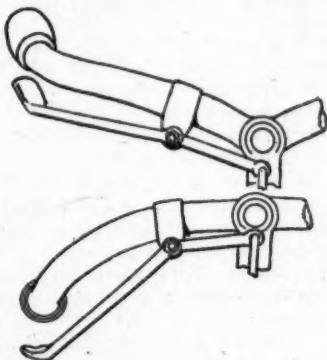
movably attached at the other. Two forms of this extension are shown, in one of which it is made in one piece, the portion which is engaged by the locking collar being turned at right angles to the extension tube and being off-set in such manner that the tube is in alignment with the center of this lug.

In the other form described the member engaged by the clamping collar is in two parts, one of which is pivotally attached to the main part of the extension. The pivoted portion is tapered and drawn into the stationary part, which is longitudinally slotted, by a screw provided for the purpose, thus expanding it in the surrounding part of the collar. The handle bar is attached to the outer end of the extension by a simple split clamp and binding bolt.



ADJUSTABLE HAND LEVER

Letters patent No. 71,435, dated April 9, 1901, to Clarence K. Davis, of Indianapolis, Ind.



Two pages of reading matter and a page of drawings are devoted to covering a bicycle brake wherein the only peculiar feature is a jointed hand lever the object of which is to render this lever adaptable to handle bars of differing forms.

As many be seen in the accompanying illustration a hinged joint is located at the fulcrum pivot, enabling the lever to be adjusted to, and in a measure, conform with the shape of the bar.

Six claims are allowed which begin with "A brake lever consisting of two members." They take up the entire brake piece after piece in succession but all wind up with the adjustability of the hand lever.

The joint, as described, consists of two engaging faces provided with radial teeth or serrations similar in form to the well-known styles of adjustable handle bars.

BICYCLE INVENTIONS.

The two members thus formed are clamped together by a hollow screw through which the fulcrum pivot passes.

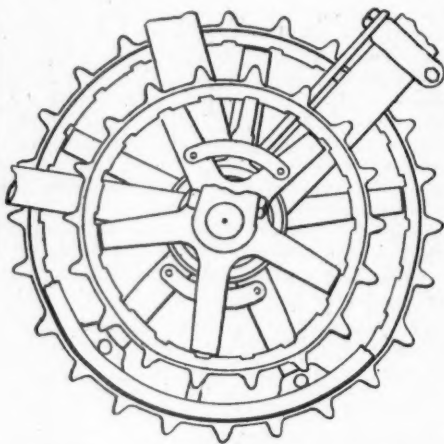
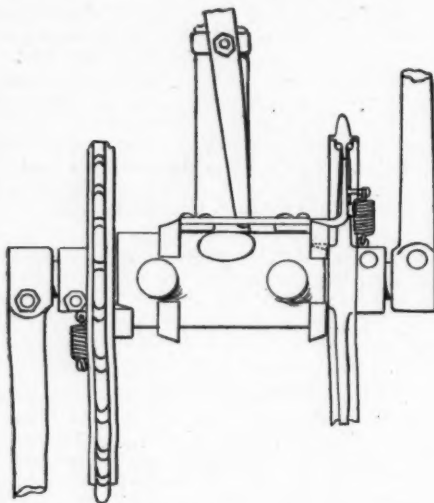


A TWO SPEED GEAR

Letters patent No. 671,945, dated April 9, 1901, to James W. Cromer, of Shelby, Ohio.

Once more the two-speed gear bobs up serenely and this time in a little worse form than usual. Mr. Cromer's device is, principally composed of a pair of driving

The inner portion of the sprocket wheel crank shaft, spring and crank collar revolve together and occupy the same relative position with respect to each other at all times. The purpose of the spring is to hold the pawl or clutch pin out of engagement with the sprocket rim when the opposite sprocket rim is engaged or both are disengaged, as when in coasting. To operate this pawl a sleeve is provided the object of which is to slide or reciprocate on the crank hanger and connect or disconnect the high or low speed sprockets or permit both to revolve



sprockets, of differing sizes, placed one at either end of the crank shaft and employing two chains and sprockets in driving. These driving sprockets consist of a toothed rim, which is attached by means of a ball-bearing to the inner portion of the sprocket arrangement which is rigidly attached to the crank shaft. The toothed rim may rotate freely around the rigidly attached portion unless locked to it by the pawl hereinafter described.

The pawl or clutch pin is attached to the spokes of the sprocket wheels by means of a clamp which is fitted to these spokes. The pawl on its inner end is constructed to extend in a semi-circle around the barrel of the crank hanger. A coiled spring is attached to the pawl, the lower end of which is attached to the crank collar.

freely. The sleeve is tapered on each side to coincide with the taper on the semi-circular portion of the pawl. Thus, as the sleeve is moved to either side the tapered end engages the tapered portion of the pawl forcing it outward into the notches provided on the inside of the sprocket rim, compelling the latter, so engaged, to rotate with and become fixed to the crank shaft.

To operate this device a lever is provided lying along the lower frame tube and fulcrumed to it by means of a clamp or collar provided with a pivot for the purpose. The upper end rests on a triangular clamp on the upper flat face of which are three holes, in which a doll pin, attached to the end of the lever, will engage, thus holding this lever in either of the three positions desired.



AMERICAN PRODUCTS INDISPENSABLE

THE MEN who own and the men who edit the Cycle Trader, one of Great Britain's best cycle trade journals, are a little too radical according to the opinions of some of the ultra-conservative element. They have a habit of calling a spade a spade and of speaking out in meeting in their endeavors to arouse the trade to some of the dangers which threaten it. This fact accounts for a stringent article which appeared a week or two ago and which, at the same time, shows how securely a number of American makers, of machinery particularly, have anchored themselves in the English market.

The following extract furnishes interesting reading and states facts of which Americans have some reason to be proud:

"America is teaching us," says the Trader, "the lesson of rapid production, lessening of cost, and dispensing with skilled labor, and yet while all these things are going on we are content to plod along in the same old rut, with never a thought of advancement, and never a real effort to combat the outside influences which are seriously threatening our trade and commerce. We, in the cycle trade of this country, have learnt perhaps better than those engaged in other industries the potency of the American influence on English engineering practice. We cannot step into any up-to-date cycle factory to-day without being confronted with thousands of pounds worth of American labor-saving machinery, brought from America because we cannot or will not construct it in this country. An English cycle manufacturer might just as well shut up shop as try to run a modern cycle manufacturing business with English machinery. Should he try the experiment we venture to think that no sane engineer would have two doubts about its being a ghastly failure. Sad though the confession may be, yet it must be made. We cannot build cycles commercially in this country without American designed and American manufactured machinery.

"We recently had the opportunity of inspecting the plant of an engineering firm turning out certain machinery in large quantities and on the repetition system, and were informed by the manager that the whole of the machinery had been either imported from America or actually built for specified jobs on the firm's premises and in the firm's shops, and

designed by the firm's draughtsman. What have our English tool manufacturing concerns to say to that?

"A well-known firm of gas engineers some time ago had occasion to place an order for a cylinder boring machine for boring the cylinders of standard pattern gas engines. In order to get a machine to do the work at the rate which it was required to be done they had to go to America, and got a machine at less cost—even including freightage—and in quicker time than it could be produced in this country, and, moreover, capable of doing better and more accurate work and in less time than any that an English tool maker could supply. The publication of the facts of the case by the firm in question, and for the benefit of their fellow engineers, raised a veritable tornado in engineering circles, but the Americans came out easy best from the fight.

"Only the other day we had evidence of the supremacy of the American in a very small matter, but one which sufficiently indicates the trend of American competition. In a certain Midland firm a certain piece has to be manufactured in large quantities by automatic turning machinery, the material—steel—being fed into the machine in the rod. The best English material was procured for the job, and it was found the cutters were constantly requiring regrinding and setting. An unlimited supply of oil was required for a lubricant, and the speed of production attained did not come up to the amount required to keep pace with orders. A special brand of American steel was then introduced, and although it was found that the resultant article from the operation was better made, more accurate, and quite as durable as that of English material, the cost on all counts was materially reduced and output increased. Twenty automatic machines were running on this particular job. The American steel cost 29½ per cent less than the English, carriage counted in cost. One attendant was dispensed with, and the rate of output was increased from 2½ to 3 per minute. No oil was used, but distilled water and alkaline soft soap was substituted at a saving of from four to five pounds per week, and the machine tools would run continuously for several days with only one sharpening. This particular steel could not be got anywhere but at one steel works in America, and was the result of experiments by a man

AMERICAN PRODUCTS INDISPENSABLE

who had been through the shops where the steel was used, and knew and appreciated a fast-cutting metal as a money earner where repetition work was the order of the day.

"We have heard Sheffield steel-makers ask us to take them into our confidence when placing orders for steel, and let them know what we want and what we want the steel to do. What is the good of taking into your confidence manufacturers who have not the knowledge necessary to produce the steel you require, and have not the energy to acquire such knowledge, but are content to let you go to the foreigner to buy better material at lower prices?

"Every user of automatic machinery in the cycle trade in this country has the same tale to tell. They cannot get the material they want in this country, and must go abroad for it. The firm we have just instanced are obliged to keep large stocks of American steel on hand in case of emergency, so that they may not be left stranded with inferior English material, in case through any cause the American supply should be closed. In addition to the extra workable properties of the American material it has the added advantage of being true to section and of absolutely invariable gauge, thus prolonging the life of the chucks and tools and ensuring more accurate work.

"In spite of these facts, there are some who would tell us that American su-

premacy in the machinery market is a bogey, and that England stands where she did. Those in the know, those whose livelihood depends on selecting the best material at the lowest prices, the most money making machinery, and the most economical factory system, have an altogether different tale to tell, and their testimony to-day is worth something."

TRIBUTE TO THE CYCLE

A noted mechanical inventor being asked at a dinner given in his honor, "What after the bicycle?" replied: "Gentlemen, there never will be any successor to the bicycle." And when asked to give his reasons for so positive a statement, replied: "Because there can never be a less amount of material put together with greater skill, that will answer the purpose of human locomotion with greater pleasure and ease, or at less original cost and current expense to the rider. To consider its lightness; its delicate beauty of appearance; strength and endurance; the price at which it is sold; the uses it serves and the pleasure and health it gives the rider, it must unhesitatingly be pronounced the consummate achievement of our mechanical development and the most beneficent contribution that invention has made to civilization. It is so unique and superlatively perfect that it has no rival and can have no successor."



CYCLE PATHS ARE EVERYWHERE

With the opening of the riding season cyclists in all parts of the country are anxiously examining those cycle paths which have already been constructed and, in districts in which there are none, are seeking information as to ways and means of obtaining them.

Seattle, Washington, charges cyclists one dollar a year apiece for the privilege of using the paths already built. With the money thus raised the authorities, assisted by the Queen City Good Roads Club, keep the paths in order and build as many new ones as the funds at their disposal will permit. Just now the club is urging riders to step up to the captain's office and settle. It is estimated that there are about 7,000 riders in the city. There are about twenty-five miles of paths already made and it is estimated that it will cost about \$3,000 to put them in first-class condition for the season. With the surplus, if any, new paths will be constructed.

The officers of the club are P. L. Allen, president; H. N. Johnson, secretary; Ira Conner, treasurer; G. F. Cotterill, chairman of the paths committee. Any of these gentlemen will be glad to furnish details of the plans under which the association works.

Arrangements are going on for an addition to the paths of Spokane, Wash. It is desired to connect all the public schools so that the youngsters may have the use of the paths in going to and from school and it is expected that when the additions have been made there will be but one school in the city which cannot be reached by a cycle path. The riders of the city are to vote on the routes to be improved.

The California legislature, at its last session, passed a law giving to towns and cities the right to tax cyclists one dollar a year and to apply the money raised to the construction and keeping in repair of cycle paths. The authorities are authorized to expend the money for paths outside of the cities if they think fit. At Sacramento the supervisors are being urged to put the power given them to practical use and to get busy on the construction of paths with as little delay as possible.

At Yakima, Wash., the cyclists have called a mass meeting for the purpose of asking the authorities to levy a tax upon them and construct paths with the proceeds.

The city clerk of Minneapolis has called the attention of the cyclists of that city

to the fact that the sooner they apply for their licenses for the season the earlier the commissioners will be able to start work on needed repairs of the cycle paths. A couple of officers whose duty it is to see that the paths are kept in proper condition during the summer, have just made a trip over them and found them badly cut up by wagon wheels.

It is reported that, so far, over 3,000 tags have been purchased and that several miles of new paths will be built this summer, but the authorities will do nothing until they have the money in the treasury. The city engineer has two crews at work on the old paths and hopes to have them in first-class condition in a week or two. The council will shortly appoint a special committee to look after the needs of the cyclists.

St. Paul is less fortunate, possibly because the riders have been less active. Just now, however, they are securing signatures to a petition, addressed to the board of county commissioners, requesting the appointment of a cycle path commission in accordance with a law recently enacted by the legislature. They ask that riders be required to pay a small fee and that the money be spent on cycle paths.

Although, in accordance with the law, Judge Boone, of Salem, O., some months ago, appointed commissioners to oversee the construction of cycle paths in the county, the commissioners seem to have done nothing and the cyclists are commencing to complain. The local papers advise them to take action and to call the attention of the authorities to the matter.

Elkhart, Ind., charges riders a license fee for the privilege of using the city sidewalks. The roads are so good, however, that the payment of the fee by any but butterfly riders seems unnecessary.

Riders at Youngstown, O., are beginning to complain. Once on a time there flourished in that city an organization known as the Good Roads Wheel League but that gave place, last year, to a side path commission. That body seems to have done nothing and the cyclists are beginning to ask whether it has outlived its usefulness before it has accomplished anything. The city has about 3,000 riders, all willing to contribute the small amount demanded of them for the privilege of a decent path to ride upon.

The mayor of Salt Lake City has vetoed an ordinance which gave to cyclists the right to use certain of the sidewalks dur-

CYCLE PATHS ARE EVERYWHERE.

ing a part of the year. Sidewalks are for pedestrians and road for vehicles, he says. The most important part of the mayor's message to the council, however, is a recommendation that proper attention be given to the construction of cycle paths. "I recommend," says the mayor, "that your honorable body take the necessary steps to commence at an early

day, the construction of bicycle paths, beginning with First, Second and Third South streets, within the restricted district as it exists at present."

The cyclists are displeased at the mayor's action but will doubtless realize, in due course, that his recommendation is of far greater value to them than a temporary permit to use the walks.

AWAY WITH TOLL GATES

That relic of antiquity, the toll gate, still holds out in some parts of the country. The evil has been almost entirely done away with in the east but in some parts of the west it is still tolerated. The tollman, who pops out of his little shanty and reaches out for the one or two cents toll demanded of the rider, is still an institution of the so-called highway system, and it is only within the past two years that county authorities in states beyond the Alleghenies, recognizing the evils of corporation control of roads intended for public use, have begun to purchase properties and franchises for future county control.

With few exceptions, roads under corporation control are poorly constructed and but indifferently maintained. Both construction and maintenance represent an investment of private capital, and a dividend must be earned, the larger the dividend, the better satisfied the stockholders, and the more secure the position of the manager. Hence, as a rule, repairs are not infrequently delayed until they become urgently necessary.

Bicyclists have been by far the strong-

est factors in opening the eyes of the state and county officials to the evils resulting from private control of highways, and in the east, at least, public roads are to-day largely owned and controlled by their respective counties.

That the west is fully alive to the situation is evidenced by the large appropriations being made by many populous counties in Ohio, Indiana, Michigan, Illinois and Kentucky to the end of ousting the road corporations and improving the highways at the expense of these counties.

In Jefferson county, Ky., alone, \$200,000 has just been appropriated to this end, and the good example set is spreading to adjoining counties. So earnest has been the work among the western good roads associations in which wheelmen are largely in the majority, that county officials are being waked up as they have never been before, and thus farmers, stock-raisers, automobilists and many other classes are still further indebted to the bicycle and to cyclists as a pioneer in the good roads movement of the country.



A Chain Is as Strong as Its Weakest Link



No. 151 "Diamond" Automobile Chain

Pitch, $\frac{1}{4}$ inches; width, $\frac{1}{2}$ inches; diameter of rollers, $\frac{5}{8}$ inch; thickness of sides, .125

This pattern has polished straw tempered hard rollers, hard steel bushings (not split), hard rivets, full polished blue 8 sides "chanfered." Its tensile strength is 6500 pounds.

We have been making chains, and nothing else for nine years. Our factory is exclusively equipped for chain manufacture. It is the largest chain plant in the world.

The characteristic qualities of "Diamond" Chains are accuracy, strength, uniformity and finish. Prices on application.

THE AUTOMOBILE AND CYCLE PARTS CO.

DIAMOND CHAIN FACTORY

INDIANAPOLIS, IND.

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CYCLES NEVER DISAPPOINT

The 1901 Models—Andrae cycles—are **New, Absolutely New**. They're made from the freshest material on the newest machinery.

There are no last year's Andraes or last year's stock in our line.

We don't make more bicycles than we can sell—and with hustling agents we are selling all we make.

Are you an Andrae agent?

Would you like to be?

Would you like to make more money, sell better wheels, newer wheels, later wheels?

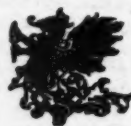
Then write to us. Do it now.

JULIUS ANDRAE & SONS CO.

MILWAUKEE, WIS.



INFORMATION FOR BUYERS AND BUILDERS



A RECENT addition to the already large line of motor bicycles is the Mitchell, made by the Wisconsin Wheel Works, of Racine Junction, Wis. While possessing no radical features in design, there being no peculiarities in frame construction further than is necessary to gain the requisite strength, the manufacturers claim that it has several points well worthy of consideration.

Believing that the motor is of paramount importance and that the rider will demand one capable of doing all the work, much attention has been given to this part of the machine, resulting in a neat and well constructed motor, somewhat larger and heavier than some of the pocket engines now in use, but, it is claimed, with a more than proportionate increase in power, and one that the purchaser is assured will carry him as fast as he will ever want to go on a good road and wherever he can pedal a bicycle for any distance on a bad one.

Much attention has been given to the matter of power transmission, particu-

carbureter is simple and easily understood, the manufacturers desiring to avoid the multiplicity of controlling levers and valves common to complicated types.

The minor points have been given careful attention and the spark coils and batteries are the best obtainable for the purpose for which they are used and are conveniently and strongly attached to the frame. Every machine will be thoroughly tested before leaving the factory, and as little as possible will be left to the purchaser in the matter of setting up and adjusting.

Mr. Heath of the sales department reports a steady influx of orders and is promising shipments promptly after the first of May on orders now in hand or immediately received.

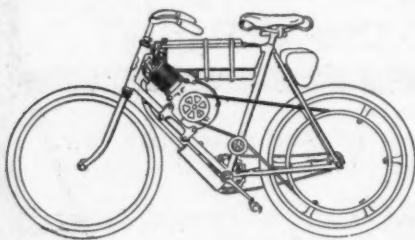


THE HARTFORD PICTURE BOOK

Unique in its every detail is an illustrated booklet just issued by the Hartford Rubber Works Co. It pertains, of course, to the justly popular Hartford tires for automobiles and cycles and as an artistic production, as well as from a more practical point of view will command the attention of those to whom the average catalogue has no charm.

It is a picture book—an illustrated story of the Hartford tire. The object of the man who prepared it was evidently to charm the eye and at the same time compel the observer to swallow a few such small doses of tire lore that they would be palatable and leave a pleasant taste in the mouth after the whole story had been absorbed.

How many colors there are in this somewhat remarkable production it is hard to determine. It is a mass of color from beginning to end. There are pictures of everything from the gatherer of the pure gum in all the glory of semi-nakedness to users of the tire in all of its latest forms. There are bicycle girls and automobile girls; boys and girls in all sorts of vehicles to which Hartford tires are applied and there are flower bedecked automobiles. The center piece extends across two pages and shows a procession



Mitchell Motor Bicycle.

larly in the grooving of the pulleys and with those provided it is claimed that slipping of the belt is entirely avoided and the belt tension device has been greatly simplified and considerably lightened.

A choice of two sizes of motor pulleys will be offered, 3 and 5 inches in diameter, giving a high gear where speed is desired or an increased driving power where bad roads are the rule. For regulating the speed a variable ignition is provided, a feature not found on many of the small motors adapted to motorcycle use. The

FISK

TIRES

FISK TIRES

contain all the virtues made possible by the use of pure rubber, faultless fabric, skilled workmanship and an A to Z knowledge of the Tire business.

No matter what sort of Tire you desire—whether for Bicycle, Motorcycle, Carriage or Automobile, you cannot afford to overlook

The Fisk—

A Tire that has made a name and fame for itself in a few short seasons

True merit is the secret.

Are you looking for an ever-satisfactory Tire?

Fisk Rubber Co., Chicopee Falls, Mass.

BRANCHES: Springfield; New York; Syracuse; Buffalo;
Detroit; Chicago; 36 Dearborn St.; San Francisco;
169 New Montgomery St.
E. A. F. SHAPLEIGH MDW. C. O., St. Louis, Mo.
Distributors for Central and Southern States.

**HIGH
GRADE**

**WELL
MADE**

HAWKINS

1123 6th Ave. N.Y.

INFORMATION FOR BUYERS.

of vehicles in all the colors of the rainbow. It may be safely asserted that nothing like it has ever before been produced in the automobile or cycle trades.

The company does not say so, but it is assumed that it will send a copy to anyone who applies for one at its headquarters in Hartford.

EAGLE GAS ENGINES

Bicycles and marine gas engines is the combination which the Eagle Bicycle Co. is now producing at its factory at Torrington, Conn. For some months the company has been working on a new type of gas engine and in a few weeks will be ready to make deliveries on the many orders it has on hand. The new engine is said to possess many attractive features and the company will shortly issue a catalogue illustrating the engine and the boats to which it will be fitted. Salesmanager Werner says the bicycle business shows bigger sales this year than it did last at this time and he anticipates a big season.

MERIT OF CRESTOLINE

The Crest Mfg. Co., of Cambridgeport, Mass., is now marketing a new lubricant known as Crestoline. The speed under which gasoline motors work make it necessary to use a practically perfect lubricant. The enormous speed combined with the heat of the explosion have proved too much for the lubricants commonly used in the past. The oil companies have offered the highest grades of engine oils but without satisfactory results. The Crest company calls attention, in a circular just issued, to the fact that the only oil which can be used with safety is one of extreme viscosity and which will stand very high temperature. This they make by blending mineral oils only and this, they say, is what they have done in the production of Crestoline. It is put up in one gallon cans and sold at one dollar.

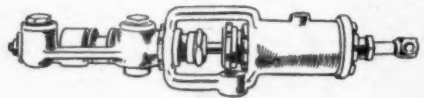
TAYLOR'S FIRST MESSAGE

The first news of Major Taylor's victory over Arend, the German sprinter, was received by the Iver Johnson's Arms & Cycle Works, of Fitchburg, Mass. Within one hour after the finish of the race, they were in receipt of the following cablegram from Taylor: "Won open and tandem races to-day. Major." It is probably not generally known that Taylor feared to meet Arend as much, if not more than Jacquelin, but this fact he confided to some of his close friends before

leaving for Europe. Major is riding the Iver Johnson racer in Europe, and will continue to do so, as he is under contract with the Iver Johnson concern until 1902.

PUMPS AIR AND WATER

The Union Steam Pump Co., of Battle Creek, Mich., intends to cut an important figure in the automobile industry. Although it already has a large plant, arrangements have been made for an extension which will afford an additional 15,000 feet of floor space. This



new factory is to be ready about the first week in July and will enable the company to largely increase its product.

The particular article of its manufacture in which the automobile trade will be interested is the combined boiler feed and air pump, the general design of which is shown in the accompanying illustration. The pump end is made with a double plunger, one being used for boiler feed and the opposite end for pumping air to the tank or for inflating tires.

The general outside dimensions are 4x4x19 inches. The pump is designed to be used in a horizontal position. Varying speeds may be obtained by steam throttle or by globe valve on delivery, the maximum speed being calculated at 200 single strokes per minute. The capacity is: Water, 15 3-10 gallons; air 10 gallons, compressed to 45 pounds, per hour, at 100 strokes per minute.

WILL HOLD A SHOW

Nearly all the goods displayed by Ralph Temple at the Coliseum show are still on exhibition at his store on Wabash avenue, Chicago. Temple announces that he will have a little show of his own about two weeks hence and will endeavor to make it so attractive that everyone who is interested in automobiles and bicycles will be glad to attend. Among other things, Temple is now exhibiting is a bicycle of good appearance the price of which, to the trade, is \$12.50. It retails at twice that sum.

R. O. Breckenridge & Co. hardware and bicycle dealers of Ontario, Cal., have sold out their business.

William McKinley and **William J. Bryan**

No matter how widely they differ
in politics, they both believe that
our country must progress and
become greater ❧ ❧ ❧ ❧

And they are right, too

We also say no matter what
bicycles come and go ❧ ❧

**The Demorest line of
Bicycles**

Will go on forever, like its proto-
type the Demorest Sewing Machine

**Demorest Bicycles are
standard**

and our reputation is our best
guarantee of that fact ❧ ❧ ❧

We can interest dealers who want ter-
ritory, suppose you write us to-day.

Demorest Manufacturing Co.

Williamsport, Pa.

PRACTICAL PLAN TO IMPROVE THE ROADS

Perhaps of all the practical methods ever adopted in this country, of calling the attention of the public to the need of good roads, that just placed in operation by the National Good Roads Association is the most likely to produce immediate results.

For a long time Colonel Moore, president of the organization, has been trying to interest the Illinois Central Railroad people in a plan to send a good roads train over their system. As a result of his efforts the railroad people became convinced that his plan had common sense behind it and in the end they appropriated \$50,000 to the uses of the association. The plan is this:

A train has been made up, consisting of nine cars. Eight of them carry all the machinery necessary in the building of hard roads. The train will stop at many points. Arriving at some place where the citizens need a lesson in self-interest, the train will stop, a meeting will be called and speakers will give the people statistics and other hard facts to prove to them the necessity of building decent roads. They will show the people how many dollars per annum they throw away because of their inability to get their goods to market economically. Then they will give an example of how a road may be built by constructing a mile of it. The town will be asked, however, to agree in advance, that if the road is as good as the speakers tell them it will be, it will build, say, five miles on its own account. By making stops at not too great distances apart the officers hope that sufficient roads may be built to encourage the towns to eventually build the intervening distances.

It is at present understood that the train will go all the way to New Orleans. The officers of the association will try to induce the railroad people to give as much attention as possible to Illinois.



Where does the railroad's interest in the matter come in? This is the first, and perhaps a natural question that has been asked by many who have been told of the plan.

In days gone by there were railroad men short-sighted enough to oppose all road improvement agitation. Presumably they imagined that their business would be injured. Today they know better. The roads feed the railroads. If, in the spring, the roads are impassable, as they often are, there are no goods to carry. Later,

when the roads dry, there is such a demand for cars that it is impossible to supply it. It is a case of a feast or a famine and the railroad loses both ways. If, on the other hand, it were possible to get goods to the stations at all times of the year, the volume of business would be steady and the strain on the railroads would be avoided.

Since the organization of the present party no less than five railroads have been in communication with the association's officials with a view to a similar trip over their roads. This seems to indicate that they have become deeply interested and that the movement has at last attracted the attention of one of the most powerful interests of the country.



Another good roads train is being prepared. It will be conducted by President Earle, of the League of American Wheelmen, and will leave Detroit some time early in the summer. The expense will be borne by the makers of road machinery. In other words the train will be an exposition on wheels. No attempt will be made to build roads, but lectures will be delivered and the men who represent the machinery houses will be ready at all times to give demonstrations of the capabilities of their machines.



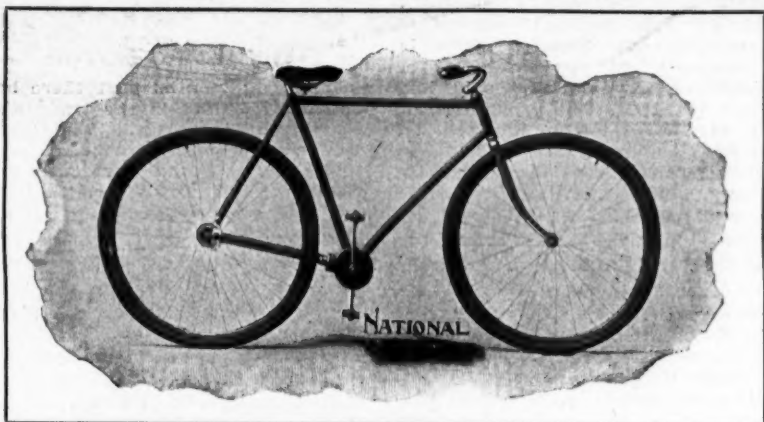
Work on the first sample of road was commenced at Flossmoor, Ill., on Tuesday. Flossmoor is twenty-four miles south of Chicago. The wagons and road-making machinery were unloaded in the morning and the engineers began marking out the work to be done. A section 1,000 feet long and eighteen feet wide is to be built as an exposition of scientific methods of road construction.

Charles T. Harrison, a government engineer from the road-inquiry office of the department of agriculture at Washington, is in charge of the work.

The machinery consists of traction engines, stonecrushers, spreading wagons, rollers, scrapers, dirt elevators, ditchers, sprinklers, sweepers, etc., all furnished by Chicago road-machinery manufacturers.

The road at Flossmoor, it is expected, will be finished by Saturday, and the expedition will then start direct for New Orleans, where it is planned to construct a specimen road for the inspection of the delegates to the good-roads convention in that city, April 29 and 30. Stops will

The Pan-American National



There is no other Bicycle like it---None so Simple

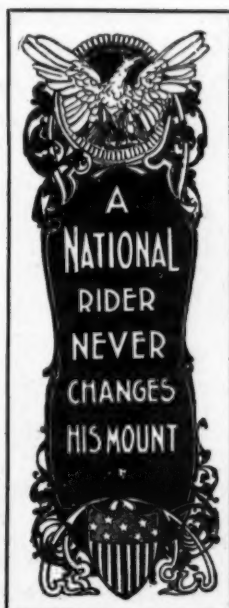
None so Durable

None so Satisfactory

It is the most advanced type of bicycle construction, combining Chainless, Cushion Frame and Coaster Brake features ❀ ❀ ❀

Our customers are enthusiastic and so are we for it's the best National we ever made. It makes former riders riders again ❀ ❀ ❀ ❀ ❀ ❀ ❀ ❀

Call on us in the Machinery and Transportation Building, Pan-American Exposition,
May 1st to November 1st, 1901



National Cycle Manufacturing Co.

Bay City, Michigan

PRACTICAL PLAN TO IMPROVE ROADS

be made at various points on the return trip in the states of Louisiana, Mississippi, Tennessee and Kentucky for the purpose of building sections of model roads.

R. W. Dodge of the National Good-Roads association; Martin Dodge, director of the office of public-road inquiry at Washington, and W. T. Beatty of the F. C. Austin Mfg. Co. went to Flossmore to witness the beginning of the work.

"The public-roads inquiry office is greatly interested in this expedition of the Good-Roads Association," said Mr. Harrison yesterday. "The purpose is, of course, to give object lessons in good road building with the materials at hand in the various places and to arouse greater interest in the subject of road building.

"As a result of 10,000 inquiries sent out by our office in 1895, figures have been compiled that are startling in their conclusions. The most conservative estimates based upon these figures show that the total of the farm and forest products hauled over the country roads amounts to over 300,000,000 tons, and that the average cost of transporting it is \$3 a ton, or a total annual cost for transportation of nearly \$950,000,000. This enormous charge is paid principally by the farmers of the country annually and of this amount the figures obtained from other

countries where good roads are the rule instead of the exception show that fully two-thirds of this amount, or about \$600,000,000, is due to the poor roads. In other words, the farmers are paying about \$600,000,000 mud tax each year, enough to cover this country with good roads and maintain them."



THE KEATING MOTOR CYCLE

For some months past there has been considerable talk in the trade about the Keating motor cycle. The few people who have seen it have been enthusiastic in its praise but until recently no newspaper man had been permitted to see it. Mr. Keating is thorough in all his work and determined not to place it on the market until it had been severely tested in every detail. He was satisfied some time ago that he had a machine which was an ideal motor cycle, but before offering it to the public he decided that it must be as "fool proof" as a piece of mechanism can be. He has now the gratification of having realized his most sanguine expectations.

Last week an Age man who heretofore has not taken much interest in motor cycles journeyed to Middletown, Conn.,

COLE'S FLEXIBLE AND ADJUSTABLE LEATHER TOE CLIPS



Made to
attach
on
inside
of
Pedal
Plate.

Specially adapted to
Long Cranks and
Low Frames.



The Flexible Leather
folds up
(see dotted lines.)

Prevents the Clips from turning on the Pedal. Have your Toe Clips bothered
you with striking the ground or scratching the shoe?

Write for Complete Catalogue of our Specialties No. 13.

SOLD BY ALL JOBBERS

G. W. Cole Company *3 in One* 141 Broadway,
Makers of New York

Lest You Forget

We beg to remind everybody in the Cycle Trade that we are the builders of the Pan-American Special Bicycle; that it combines center drive Chainless, Cushion Frame and Hub Coaster Brake; that the gears are Leland-Faulconer and nothing else; that these models stand for all that is up to date, in fact are one step beyond anything ever produced by any maker; that we are the oldest survivors of the Cushion Frame promotion; that we have built more Cushion Frames than all other makers put together; that we are the most progressive designers of new models; that our Cushion Frame experience is the most extensive and our product unrivaled. See us at the exposition.

THE GEORGE N. PIERCE CO.

Buffalo. Boston. New York. Denver. San Jose.

COMFORT WITH SPEED IS THE CUSHION FRAME MOTTO

The CUSHION FRAME is positively the greatest bicycle invention since the advent of the pneumatic tire. It practically increases the resiliency of the tire four fold without in the least detracting from the speed or power of the wheel (as compared with the so-called rigid frame). The most enthusiastic converts to the Cushion Frame are the old-time, speedy "get there" riders who at first "scoffed" the idea of COMFORT being combined with "speed and power" in a bicycle :: :: :: ::

HYGIENIC WHEEL CO.

220 Broadway, NEW YORK

Owners of the Cushion Frame Patents.

with the object of learning more about the new machine. The factory of the Keating Wheel Co., which is about half a mile from the station, was unapproachable from the main road owing to the recent flood, but was easily reached by way of the railroad track which runs by the building.

Sales manager Greer's face fell when he learned the object of the visitor's call and saw the camera with him. He explained that some of the foreign patents had not been received and Mr. Keating was averse to any publicity until they had. Mr. Keating, however, said while he could not permit any pictures of the machine to be taken, he cheerfully turned the Age man over to Mr. Greer with instructions to let him learn all about the new product.

The Keating factory is a two-story building about a quarter of a mile long. It is one of the most modern structures of its kind. The office is on the second floor at the west end of the building. Back of the office various departments are located along each side with two picket fences forming a long passageway from one end of the building to the other. Mr. Greer introduced the Age man to C. J. Roach, the designer of the firm, and the motor cycle was brought out.

For the reasons stated no detailed description can be given at this time, but no interests are injured by stating that it is as fine an appearing motor cycle as has yet been produced. The motor is built into the frame and it has a decided business-like appearance that appeals to the beholder. Both Mr. Greer and Mr. Roach raced it from one end of the building to the other and its smooth running and perfect control were apparent.

"Get on and try it," said Mr. Greer.

"I never operated one," remonstrated the writer.

"Never mind, you'll soon learn how," responded Mr. Greer. He proceeded to show how the current was turned on and explained the operation of the compression valve and speed lever.

Thoroughly convinced that if he didn't smash the motor cycle against one of the fences he would do serious injury to his person, the Age man with less confidence in himself than he had in his accident insurance company, mounted the bicycle and with a few turns of the pedals found himself racing toward the other end of the building where an assistant was stationed to catch him if he tried to go through the wall. After making this journey three times the rider gained enough confidence to start the machine himself and operated the compression valve. He then, under instructions from the two gentlemen named, after a start, opened

ADVERTISEMENTS.

the speed valve, not slowly, as he had been told, but with a yank that pushed it to the limit. The effect was instantaneous. If three galloping horses had been hitched to the bicycle the sensation could not have been more startling to the novice in the saddle. The machine jumped forward, the rider clutched the handle bars for dear life, and in a second he was whizzing down the passageway at a speed that stopped breathing, caused the eyes to tingle, brought a feverish glow to the cheek and gave the most exhilarating sensation ever experienced. Without any effort he felt carried along as though possessed of wings. The picket fence became a wall and the windows on both sides a dazzling blur.

Suddenly he realized that the wall at

the end of the building was approaching at a rate that meant a violent termination of his pleasure. He heard a yell, "Turn your wrist," did so automatically, and then with the wheelman's instinct back pedaled. The motor stopped, the machine slowed down and the rider jumped off, one of the most enthusiastic motor cyclists this side of the Golden Gate.

Mr. Keating smiled when he heard the reporter's congratulations and said that one has only to ride a motor cycle to become a convert. He stated that he was working on a number of machines and expected to be ready to make deliveries in a very short time.

While awaiting the train at the depot the Age man heard two baggage smash-

General Offices Keating Wheel Company, Keating Bicycles

MIDDLETOWN, CONN., April 13, 1901.

MR. WIDE-AWAKE DEALER,
Unoccupied Territory, Cycledom,

DEAR SIR:

How is business? That is the **MOST IMPORTANT QUESTION** to you. Is it so good that you do not want to make it better? To make it better there is only one way, and that is to handle a line with distinctive features which are also superior features; features that your competitors cannot show. We speak of the Curved Frame, conceded by all mechanical experts to be the lightest and strongest frame built, and our Double Roller Chain, the only bicycle chain which will run noiselessly under all conditions. These are the cardinal points in a bicycle: namely, lightness, strength and easy running qualities.

In the motor bicycle, we have the only Perfect Motor Bicycle yet constructed. It is not a bicycle with a motor attached, and is distinct from all other types just as our chain bicycles are superior to all others.

Our discounts are just right, we can assure you. We cannot say anything of our treatment until you give us an opportunity. We know you can make money with our line, and we want you to do so. We are ready for deliveries, so let us hear from you at once.

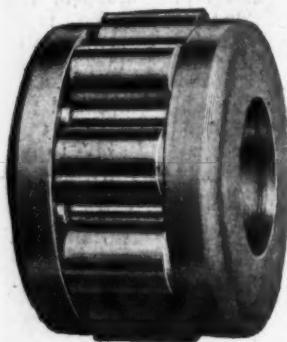
Yours very truly,

KEATING WHEEL & AUTOMOBILE CO.,

MIDDLETOWN, CONN.

ADVERTISEMENTS.

ers talking about the new Keating product which one of them had seen on the street that morning. His comment was brief but expressive. He said: "Say, it goes like H—."



A R B ROLLER BEARINGS

If you are not using the A R B you are not getting the greatest possible efficiency from your machine. Send for circular.

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Boston, - - Mass.

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MISCELLANEOUS

Advertisements under this head 5 cents per word first insertion; 3 cents per word each insertion thereafter. Cash with order. Express orders, postoffice orders or stamps received.

FOR SALE

FOR SALE—The Automobile Storage and Repair Co., 57 West 66th St., New York, have new and second-hand steam, gasoline, and electric carriages constantly on hand and have always some special bargains.

FOR SALE—One Waverley Electric Automobile. second hand, but as good as new; for two or four passengers; cost \$1200.00; will sell for \$650.00. Address, F. L. MOORE, 34 Monument Pl., Indianapolis, Ind. *

FOR SALE—Wood's Electric Top Buggy; four speeds each way; electric lights and bell. Nearly new, good condition, \$825. Address G. H. BARRT, 147 Monroe St., Grand Rapids, Mich.

A GREAT SACRIFICE—Five thousand pieces Shelby Seamless Steel Tubing, fifteen-sixteenths in diameter, gauge nineteen—cut in following lengths: Twenty-five hundred length, twenty-six inches; twenty-five hundred length, twenty-eight inches. For sale for cash by FLEXA MFG. CO., 25 Lake Street, Chicago.

FOR SALE—One \$700 automobile (better than new) for \$275. C. C. BAIR & CO., Tiffin, O. 1

WANTED

SITUATION WANTED—First-class plater, polisher, japaner; will fit up and run on contract any class of work, or work for wages; can furnish plant; have run largest plant in the west. Address JAPAN; care Motor Age.

AGENTS WANTED—To sell our fully guaranteed L. A. W. bicycle tires. Only hustlers need answer. Agent's sample pair of tires with instructions, catalogues, etc., sent prepaid upon receipt of reference and one dollar. THE GOODYEAR PAD & RUBBER CO., 81 Chambers St., New York.

WANTED—Salesman calling on Bicycle and Carriage Trade to sell line of auto parts, wire wheels, axles, etc. on commission; state territory. Address 322 Clark Ave., St. Louis, Mo.

Trade  Mark

FAUBER PERFECTION HANGER



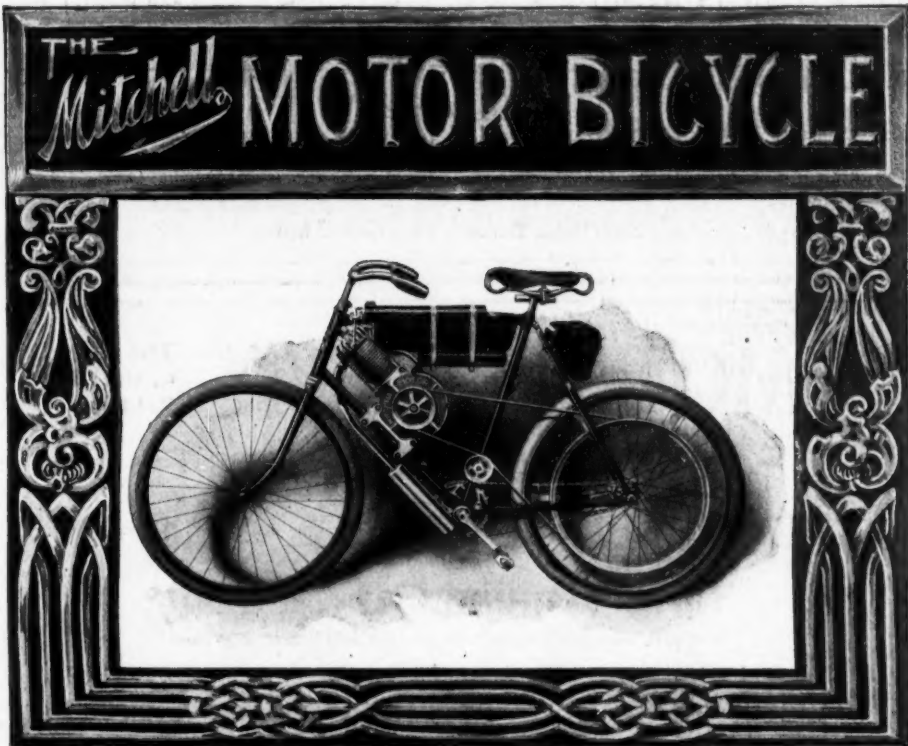
THE DIAMOND SQUARE CRANK

Unequaled in any of the points which make a Perfect Hanger.

LIGHT, SIMPLE, DURABLE

W. H. FAUBER, MANUFACTURER

CHICAGO, U. S. A.



Simplicity

Easily understood and operated by the novice.

Power

Soft roads, hills and head winds taken without the riders assistance.

Speed

Limited only by the courage of the rider, the condition of the road or the law of the land.

Motor

Our own manufacture, and of sufficient *size, power and speed* to satisfy 999 riders out of 1,000.

Frame

Built extra heavy throughout for safety.

Weight

With tanks filled about 100 pounds.

Guarantee

As with our regular line, the **strongest and most liberal** given by any factory.

GOOD AGENTS will find the Mitchell Motor Bicycle strong enough to pull many of them out of the hole.

TAKE NOTICE—We are redeeming our promise to make the Mitchell Bicycle Agency the most profitable in the country.

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A MOTOR THAT MOTES

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Work of Every Description.**

Fine Launches to Order a Specialty.

197 AND 199 HOUSATONIC AVENUE

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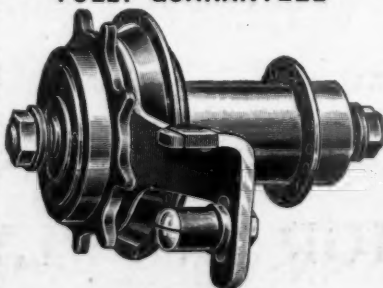
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FULLY GUARANTEED



BECAUSE: No lost motion. Dust and water proof. Automatic releasing brake. A tight pedal and a free wheel. Absolutely free rear wheel either way. Free from noise when applying brake. Perfect control of wheel at all times. Will carry any rider down the steepest hill with perfect safety. Free from ratchets, balls or other objectionable mechanism. Appearance hardly indicates presence of brake. Best material and best workmanship. Adds only one pound to weight of wheel.

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Universal Coaster Brake Co.
BUFFALO, N. Y.

OFFICE: 318 ELLICOTT SQ.

Best in the World

PRICE \$4.75

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"The Best Ever"

1 in. and $1\frac{1}{8}$ in.
Built Up
Frames..



EQUIPMENTS TO SUIT YOU
A-1 Goods--None Equal

Rock Bottom Prices---Prompt Service

EVERY AND ALL THINGS FOR
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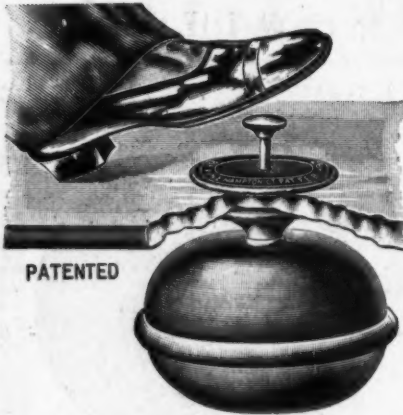
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These
are said
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THE BEST BELLS MADE

Try
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No. 61, 3 inch Gongs. Double Chiming Gongs
No. 62, 3 inch Gongs. Electric Stroke Double Gongs

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East Hampton, Conn.

Western Agents, Excelsior Supply Co.
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POINTER No. 1 From the

CHICAGO AUTOMOBILE
EXHIBIT.

Wasn't "The Milwaukee" strictly in it from start to finish? Did you note that Crank Shaft made in one steel drop forging? You don't find that in any other make. It's cheaper to fasten 13 pieces together.

How about that Doctor's Carriage? Could anything be finer? Don't you want one?

You can ascertain all about the vehicle by addressing the

**MILWAUKEE
AUTOMOBILE CO.**

19th St. & St. Paul Ave., Milwaukee, Wis., U.S.A.

UNION JACK TIRES



Season's Guarantee

The "Union Jack" Tire is made by one of the best known rubber tire manufacturers in the United States. We absolutely guarantee this tire ourselves direct to our customers, and the trade will thoroughly appreciate an arrangement of this kind

Special Offer

With each order for five pairs of our Union Jack Tires we will present to you, free, one pair of Union Jack Tires

Send for our No. 12 Catalogue
It's full of good things.

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The Toledo Cycle Supply Co.**

J. G. SWIDEMAN, President and Gen'l Mgr.

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HARTFORD TIRES.
 THEY TAKE ALL THE ROUGHNESS FROM THE ROAD.

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\$8.50 PER SET

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 Motor Launches in Stock

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Automobile Manufacturers, Repairers and Remodelers. Manufacturers of Steam and Gasoline Engines, Carburetors, Mufflers, Batteries, Coils, Differential Gears, Steam Condensers, etc. Write for prices.
 'Phone—Harrison 371.

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Close Grained—Strong—Suitable for
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DUCTILE STEEL

Will not harden in brazing and welding.

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Made from refined Charcoal Iron.

ACME STEEL & MALLEABLE IRON WORKS, Buffalo, N. Y.

ENGINES, BOILERS, REGULATORS,
 Burners, Gauges and Valves. Also a
 full line of Steam Vehicle Fittings.

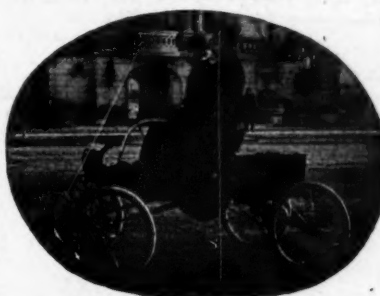
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Safe for child to operate.



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.. AUTOMOBILE RUNNING GEARS ..



**FOR THE
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We make two
 styles complete
 with the proper
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9 and 11 inch "STAR" Foot and Power Lathes are built upon the principle of the best machine possible for a fair price. Note these points: End-Thrust Ball Bearing Spindle, reducing friction 75 per cent; Reversible Friction Feeds; Adjustable Tool Post Collar and Shoe; Reverse Motion in Head; Foot Power with a Walking Motion. **SENECA FALLS MFG. CO.,**
 Send for catalogue "B" 425 Water St., Seneca Falls, N. Y.

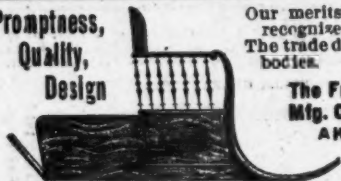
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Of Bicycle Holders, Repair Stands, Luggage Carriers, Toe Clips, Bank and Office Railings, Lawn Settees, Tree Guards, Wire Cloth, Etc. is now ready. Get it. Our goods have an unsurpassed record and are pioneers.

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Promptness,
Quality,
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Our merits have been recognized. The trade demands our bodies.

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THE DOW BICYCLE COIL

We manufacture all kinds of coils, batteries and spark plugs.



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**CREST
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EVERYTHING
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CASTINGS FOR GASOLINE MOTORS

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AUTOMOBILE
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1,000 Candle Power.

SIMPLY, RELIABLE and SAFE

Reflector attached to Steering Gear. Water tank carried under Seat. **AUTOMATIC** in OPERATION. **COST** to operate, 1 cent for 2 hours.

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Carse Bros Co., 64 and 66 Wabash Ave. Chicago, Ill.

NOT A PUZZLE!

Which is the....
Best Transmission

IT'S A SETTLED FACT—

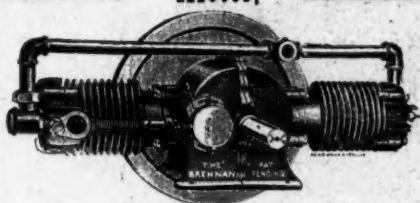
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Empire Motor Works

910 Washington St. BUFFALO, N. Y.

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The Brennan Standard Gasoline Motor



MANUFACTURED BY
BRENNAN MFG. CO. Syracuse, N. Y.

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A Perfect Gas Lamp for Bicycle or Carriage.

MADE BY
THE MILLER MANUFACTURING CO.
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SAME QUALITY. LOWER PRICES.
WRITE FOR NEW CATALOG.
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ARE THE LEADERS. **AKRON, O.**
MADE IN

The Goodyear Tire and Rubber Co.

BANNER GAS LAMP

For 1900
is worth
more than the price
asked. Correspond at
once with
**PLUM & ATWOOD
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All kinds of Metal Stamping.

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Bicycle, Driving and Automobile
For sale by ALL JOBBERS AND DEALERS
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THE PERFECT WHEEL.

Seven models, with a range of prices to suit all
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THE MIAMI CYCLE & MFG. CO.,
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OUR Enamels and Colors in Japan

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Dixon's Pure Flake Graphite Lubri-
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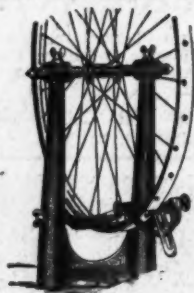
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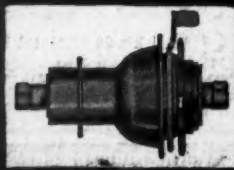
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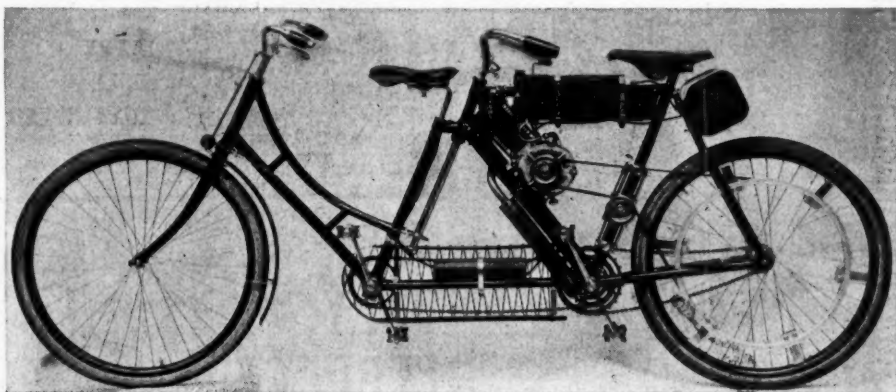
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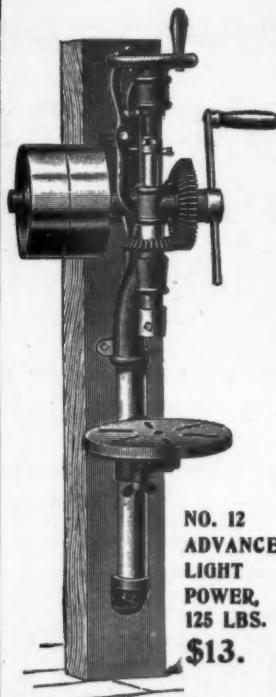
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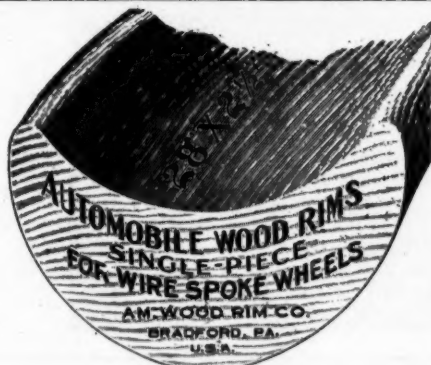
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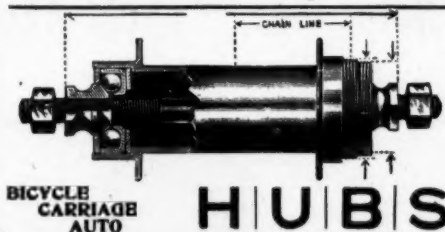
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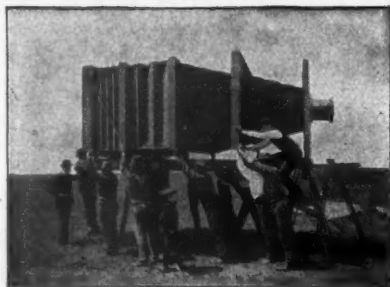
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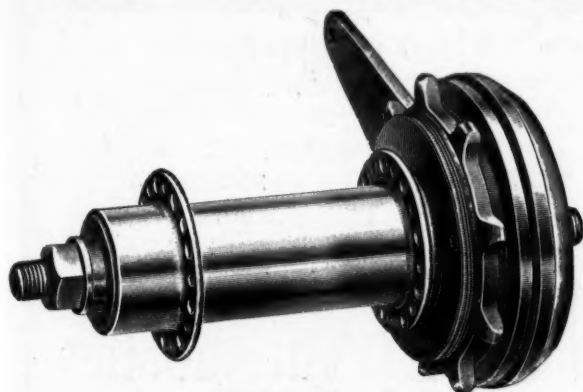
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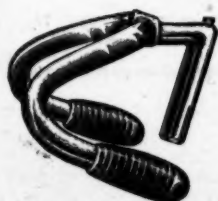
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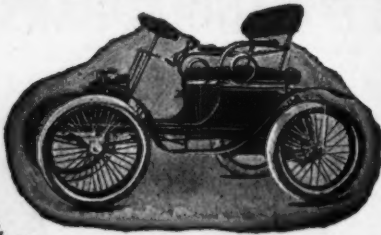
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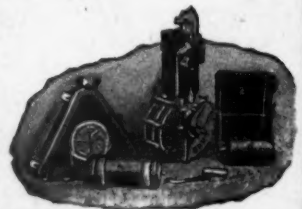
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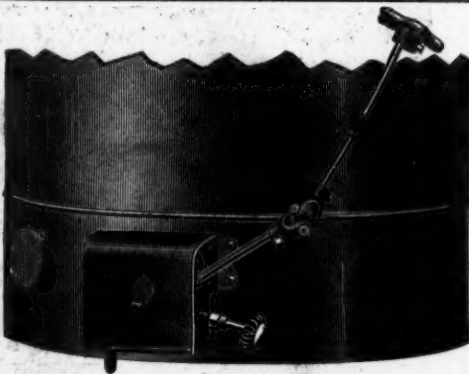
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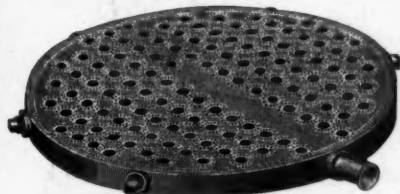
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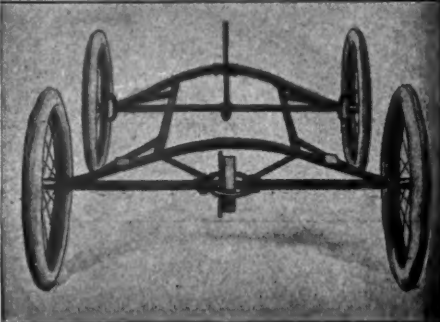
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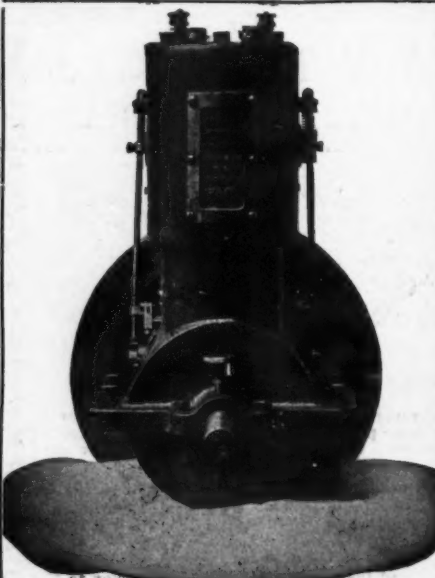
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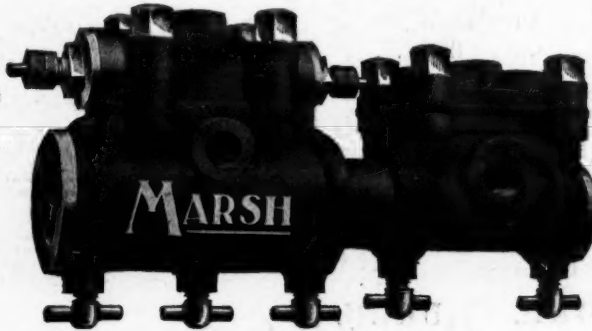
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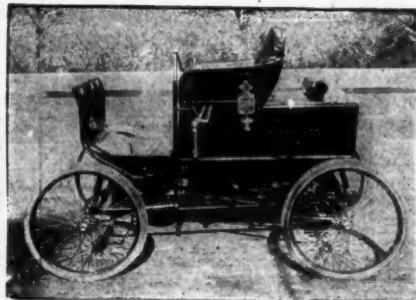
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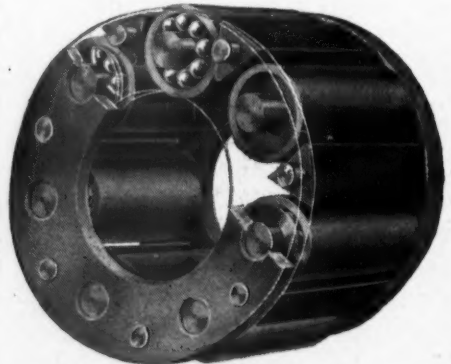
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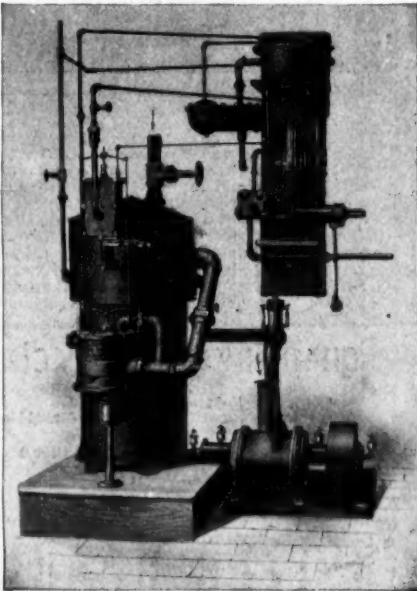
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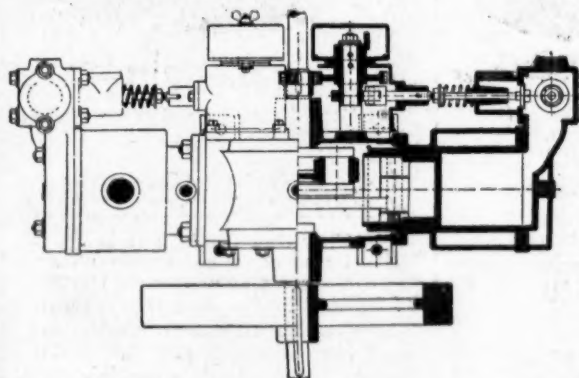
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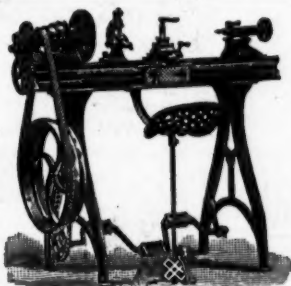
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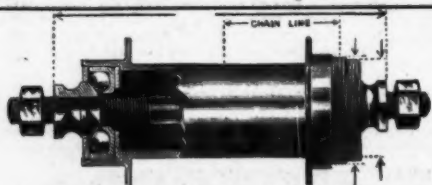
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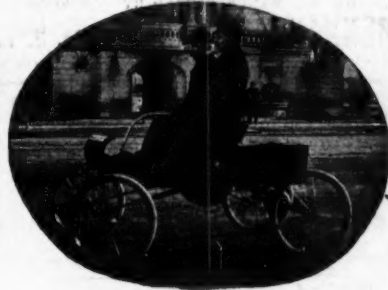
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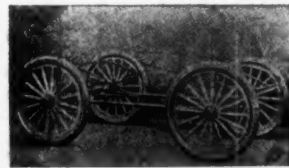
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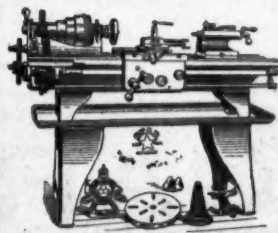
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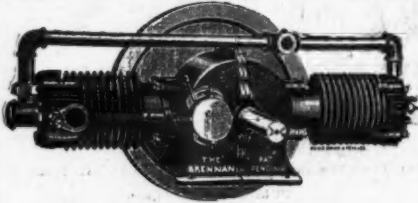
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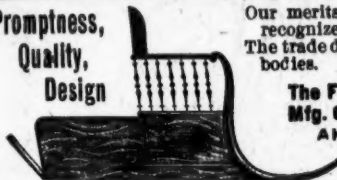
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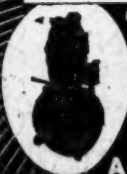
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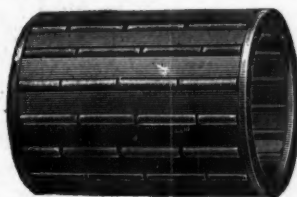
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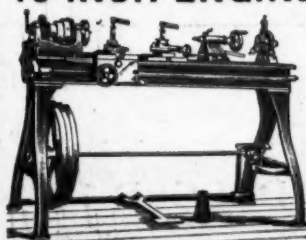
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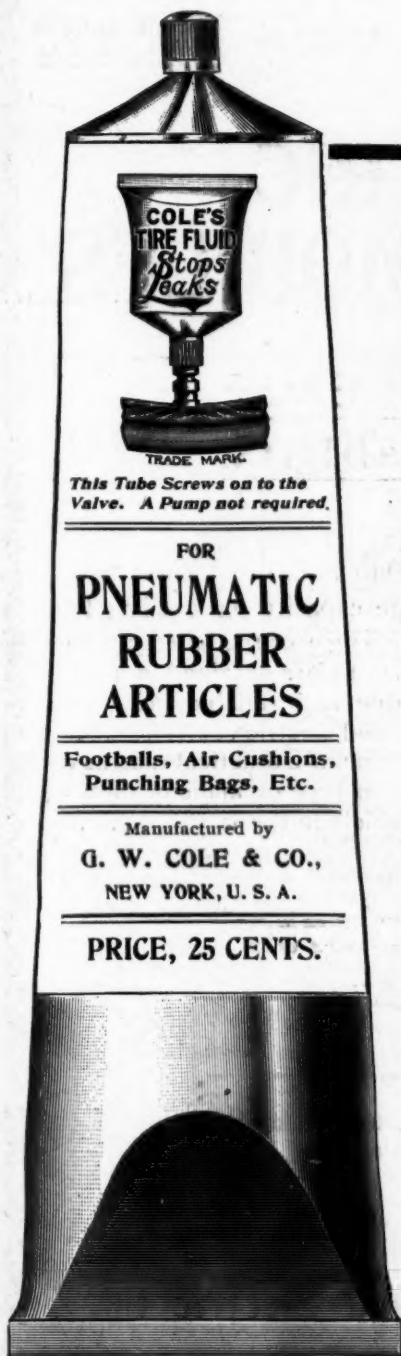
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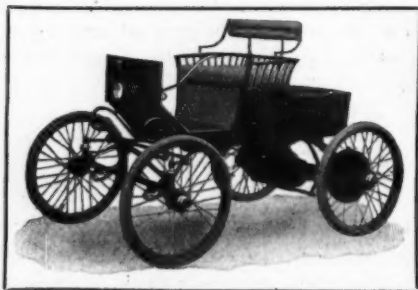
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